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SOME EFFECTS OF NOSE BLUNTNESS AND FINENESS RATIO ON THE STATIC LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF BODIES OF REVOLUTION AT SUBSONIC SPEEDS

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SUMMARY

The effects of a systematic variation of nose shape and fineness ratio on the longitudinal aerodynamic characteristics of bodies of revolution have been qualitatively determined at subsonic speeds. Six nose shapes were investigated, representing five corner radii which varied from 0 to 50 percent of the body diameter and three face radii which varied from 50 percent of the model diameter to infinity. The complete models had fineness ratios of 0.50 to 2.00. In addition, the effects of boattailing the afterbody and removing or varying the transition strips which had been attached to initiate a turbulent boundary layer were noted. Results are presented for an angle-of-attack range from -4° to 24° for Mach numbers from 0.25 to 0.80, and indicate that small variations of the model nose can produce large variations in the static longitudinal aerodynamic characteristics of the body. These variations may in turn be moderated by an increase in the model fineness ratio.

INTRODUCTION

The configuration of a recoverable low-lift vehicle capable of atmospheric entry at high speeds is determined to a large extent by the aerodynamic heating problems which arise. Reference 1 has shown that the nose of such a vehicle should be blunted in order to take advantage of the associated low convective heat-transfer rate and the strong bow wave through which considerable energy is dissipated. Since it is desirable to decelerate at a high altitude, a fairly large part of the entry time may be spent at subsonic speeds, and as the air density increases with descent the aerodynamic force and moment characteristics of the configuration become more important. Wind-tunnel research on typical configurations at subsonic speeds has indicated that large variations of aerodynamic forces and moments may accompany the variation of corner radius for bodies of low fineness ratio (ref. 2), while moderate

variations of aerodynamic forces and moments are associated with bodies having high fineness ratios (ref. 3). A research program was therefore initiated to determine more precisely the combined effects of corner radius and fineness ratio on the aerodynamic characteristics of blunt bodies of revolution by a systematic variation of these parameters. In this investigation, which was conducted in the high-speed 7- by 10-foot tunnel at Mach numbers from 0.25 to 0.80, the corner radius was varied from 0 to 50 percent of the body diameter while the fineness ratio was varied from 0.50 to 2.00. In addition, the effects of face radius, transition strips, and afterbody shape were studied. The purpose of this paper is to summarize briefly the results of this investigation.

SYMBOLS

The positive direction of forces, pitching moment, and angle of attack is shown in figure 1. The origin of the axis system is located at a point $33\frac{1}{3}$ percent of the model length behind the model face. Symbols are defined as follows:

C_A axial-force coefficient, $\frac{\text{Axial force}}{qA}$

C_D drag coefficient, $\frac{\text{Drag}}{qA}$

C_L lift coefficient, $\frac{\text{Lift}}{qA}$

C_m pitching-moment coefficient, $\frac{\text{Pitching moment}}{qAd}$

C_N normal-force coefficient, $\frac{\text{Normal force}}{qA}$

d maximum diameter of model, ft or in.

l model length, ft or in.

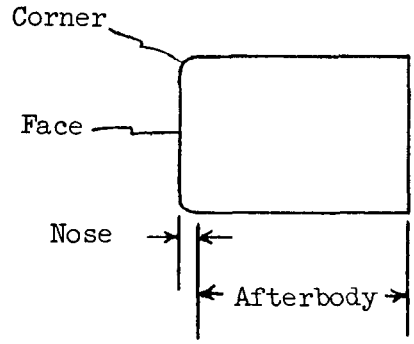
M Mach number

q free-stream dynamic pressure, $\rho V^2/2$, lb/sq ft

R Reynolds number, $\rho Vd/\mu$

r_c	corner radius, ft
r_f	face radius, ft
A	maximum cross-sectional area of model, $\pi d^2/4$, sq ft
V	free-stream velocity, ft/sec
α	angle of attack, deg
μ	viscosity of air, slugs/ft-sec
ρ	density of air, slugs/cu ft

The nomenclature of the family of bodies of revolution used in this investigation is shown in the following sketch:



MODELS AND TEST EQUIPMENT

All the models utilized in this investigation (shown in fig. 2) were bodies of revolution made of mahogany. The ratio of corner radius r_c to body diameter d varied from 0 (sharp corner) to 0.50 (hemisphere) and the fineness ratio l/d varied from 0.50 to 2.00. The variation in fineness ratio was achieved by cutting pieces from the rearward end of the model. All models were marked so that they could be reattached to the strain-gage balance with the same roll orientation. These procedures were followed in order to assure that the identical corner radius was maintained for each model in a fineness ratio series and to minimize any effects of model asymmetry. The ratio of face radius r_f to body diameter d varied from infinite (sharp corner) to 0.50 (hemisphere). It should be noted that the models with corner radii of 0 and 0.50d were identical to models with face radii

of ∞ and 0.50d, respectively. In addition to the cylindrical models representing systematic variation of the aforementioned parameters, some models with boattailed bodies were investigated.

Transition strips were attached to the models, as shown in figure 3, to initiate a turbulent boundary layer. The grit size of the roughness particles was determined by the methods of references 4 and 5. Typical particle distribution is shown in the photograph of figure 4.

The tests were conducted in the Langley high-speed 7- by 10-foot tunnel. The models were mounted on a sting-support system which can be remotely operated through a test angle-of-attack range. Aerodynamic forces and moments were measured by an internally mounted strain-gage balance.

TESTS AND CORRECTIONS

The free-stream Mach number of the tests ranged from 0.25 to 0.80, the highest Mach number in each test being determined by the power available in the wind tunnel. The angle-of-attack range was from -4° to about 24°. The Reynolds number based on the body diameter (which was 1 foot) is presented with the tabulated data for each test.

A short visual investigation was made with tufts attached to typical models in order to obtain some qualitative understanding of the flow phenomena which produced the recorded values of force and moment.

Blockage corrections determined by the method of reference 6 have been applied to the Mach number, and corrections for the deflection of the sting-support system and strain-gage balance under load have been applied to the angle of attack. Jet-boundary corrections were found to be negligible and therefore were not applied. Inasmuch as the most probable application of the data would be to power-off flight conditions, the axial force has not been adjusted to the condition of free-stream static pressure at the model base. Corrections to axial force arising from the interference effect of the sting were negligible because the sting diameter (1.50 inches) was relatively small with respect to the smallest model diameter. For example, see reference 7.

PRESENTATION OF DATA

The basic data for each model are presented as the variation of longitudinal force and moment coefficients, based on the maximum model

diameter and cross-sectional area, with angle of attack at the test Mach and Reynolds number in tables I through X. Normal force, axial force, and pitching moment are plotted as functions of angle of attack and presented in the following order:

RESULTS AND DISCUSSION

Figure 5 indicates that for the model with a fineness ratio of 0.50 a sharp corner $(r_c/d = 0.00)$ produced zero normal force and a large axial force. Visual observation of the tufts indicated that the flow was separated at the sharp corner and was unable to reattach because of the relatively short afterbody. Slight rounding of the corner $(r_c/d = 0.05)$ apparently allows the flow to attach to the lower surface while remaining separated at the upper surface, producing a marked reduction in axial force and a negative normal-force slope at low angles of attack. Further rounding of the corner $(r_c/d = 0.10$ to $0.20)$ permits

the flow to remain attached around the circumference of the model until, at some moderately high angle of attack, the flow separates from the upper surface as indicated by the sharply decreased normal force, increased axial force, and decreased stability. The angle of attack at which separation occurs decreases as the Mach number increases. It should be kept in mind, however, that flow hysteresis associated with separated flow over blunt, axially symmetric models as described in reference 8 may be encountered. The flow remains attached to the hemispherical face $\left(r_c/d = r_f/d = 0.50\right)$ at all test angles of attack and Mach numbers.

Increasing the fineness ratio of the model probably does not change the flow characteristics at the model nose; however, flow which has separated is able to reattach to the afterbody as evidenced in figures 6, 7, and 8. The effects of corner radius for various fineness ratios are summarized in figure 18, where it is seen that increasing the corner radius beyond about 10 percent of the body diameter is accompanied by only small variations of force and moment.

The effect of face radius, as defined in figure 2(b), is presented in figure 9. Although changing the contour of the face from flat $\left(r_f/d = \infty\right)$ to slightly round $\left(r_f/d = 1.07\right)$ yields a significant reduction in the axial force, the aerodynamic characteristics generally appear to be determined by the flow conditions initiated at the sharp corner of the face and show a strong similarity to the characteristics of the flat-faced model. Increasing the curvature to that of the hemisphere, of course, results in a large reduction in axial force and increase in the slope of the normal-force curve through much of the test angle-of-attack range. Boattailing the model afterbody apparently reduced the area in which flow reattachment could occur and was accompanied by a significant increase in axial force and a reduction in normal force at angles of attack above about 12° (compare figs. 9 and 10). The addition of a small cylindrical section to the boattailed afterbody provides some area for flow reattachment, as indicated by the increased stability at high angles of attack (fig. 10). A cursory investigation of the effects of the transition strips is presented in figures 11 to 17. Removal of the transition strips from the model nose is shown in figures 13 and 14 to produce no significant changes in the aerodynamic characteristics of the body with the hemispherical nose $\left(r_c/d = r_f/d = 0.50, \quad l/d = 1.00\right)$ or the body with the sharp corner $\left(r_c/d = 0.00, \quad l/d = 2.00\right)$. The removal of the transition strips from models with a slightly rounded corner $\left(r_c/d = 0.05, \quad l/d = 1.00 \text{ and } 2.00\right)$ apparently permits some flow separation throughout the angle-of-attack and Mach number ranges, as shown in figures 11 and 15 by the increased axial-force coefficients; however, removal of the transition strips from models with a moderately rounded corner $\left(r_c/d = 0.10 \text{ to } 0.20\right)$ produces a significant reduction

in axial force at higher angles of attack, as shown in figures 12 and 16. The effects of location of the transition strips on the longitudinal aerodynamic characteristics of the model with the slightly rounded corner $\left(r_c/d = 0.05, \quad l/d = 1.00\right)$ are shown in figure 17.

CONCLUSIONS

The effects of nose shape, afterbody shape, fineness ratio, and transition strips on the static longitudinal aerodynamic characteristics of a body of revolution have been investigated. The following qualitative conclusions have been drawn from the results of this investigation:

1. The normal and axial forces acting on bodies of revolution with fineness ratios of less than 1.00 were extremely sensitive to variation of corner radius, particularly when the radius was less than 10 percent of the body diameter.

2. Increasing the fineness ratio of the bodies reduced the effect of corner radius on the aerodynamic characteristics.

3. Boattailing the afterbody of the model produced a significant increase in axial force and a reduction in normal force at angles of attack above about 12°.

4. While removal of the transition strips had no significant effect on the aerodynamic characteristics of the models with the flat or hemispherical face, some significant effects are noted for the body with a corner radius of 5 percent of the body diameter. For bodies with corner radii of 10 to 20 percent of the body diameter, significant effects are noted only at the higher angles of attack.

Langley Research Center,
National Aeronautics and Space Administration,
Langley Field, Va., October 21, 1960.

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TABLE I.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND $l/d = 0.50$

(a) $r_c/d = 0.00$

M=0.25			R=1.60 x10⁶			M=0.40			R=2.45 x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-1.99	.0341	1.1527	.0205	-.0059	1.1532	-1.99	.0368	1.1650	.0124	-.0037	1.1656
-1.00	.0138	1.1571	.0169	-.0064	1.1571	-0.99	.0161	1.1561	.0099	-.0039	1.1562
0.00	-.0066	1.1658	.0138	-.0066	1.1658	0.00	-.0042	1.1724	.0071	-.0042	1.1724
1.00	-.0273	1.1605	.0088	-.0070	1.1608	1.00	-.0249	1.1700	.0032	-.0045	1.1702
2.00	-.0479	1.1685	.0043	-.0071	1.1695	2.00	-.0486	1.1673	.0005	-.0079	1.1683
3.00	-.0681	1.1625	-.0009	-.0072	1.1645	3.00	-.0704	1.1641	-.0020	-.0094	1.1662
4.00	-.0880	1.1563	-.0049	-.0071	1.1596	3.99	-.0936	1.1604	-.0050	-.0127	1.1641
5.00	-.1038	1.1500	-.0091	-.0032	1.1546	4.99	-.1138	1.1566	-.0082	-.0128	1.1621
5.99	-.1309	1.1470	-.0121	-.0105	1.1544	5.99	-.1368	1.1520	-.0110	-.0159	1.1600
6.99	-.1494	1.1353	-.0149	-.0101	1.1451	6.97	-.1586	1.1546	-.0129	-.0173	1.1653
7.99	-.1713	1.1500	-.0178	-.0097	1.1626	7.97	-.1804	1.1531	-.0152	-.0188	1.1670
8.99	-.1879	1.1289	-.0215	-.0092	1.1444	8.97	-.2001	1.1478	-.0180	-.0187	1.1650
9.99	-.2102	1.1429	-.0238	-.0087	1.1621	9.97	-.2224	1.1490	-.0200	-.0201	1.1702
11.99	-.2492	1.1391	-.0288	-.0072	1.1660	11.96	-.2625	1.1439	-.0254	-.0197	1.1735
13.99	-.2937	1.1418	-.0339	-.0090	1.1789	13.96	-.3007	1.1305	-.0291	-.0191	1.1696
15.99	-.3395	1.1194	-.0373	-.0180	1.1696	15.95	-.3498	1.1237	-.0324	-.0275	1.1765
17.98	-.3831	1.1051	-.0437	-.0233	1.1694	17.95	-.3980	1.0962	-.0351	-.0408	1.1655
19.98	-.4197	1.1058	-.0492	-.0166	1.1826	19.94	-.4295	1.0759	-.0411	-.0369	1.1579
21.98	-.4173	1.0873	-.0631	.0200	1.1645	21.96	-.4390	1.0594	-.0509	-.0109	1.1467
22.99	-.4106	1.0810	-.0690	.0442	1.1555	22.96	-.4389	1.0572	-.0560	.0083	1.1446

(b) $r_c/d = 0.05$

M=0.25			R=1.60x10⁶			M=0.40			R=2.39 x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-1.95	.2211	.7223	.0047	.1964	.7294	-1.93	.1170	.8058	.0080	.0898	.8092
-1.03	-.1480	.6938	.0226	-.1605	.6910	-1.00	.0018	.8291	-.0001	-.0127	.8290
-0.05	-.2171	.6929	.0169	-.2177	.6927	-0.05	-.0898	.8272	.0073	-.0905	.8271
0.94	-.2332	.6995	.0128	-.2217	.7032	0.90	-.1887	.7941	.0124	-.1762	.7970
1.94	-.2414	.6906	.0106	-.2179	.6984	1.88	-.2338	.7876	.0078	-.2079	.7949
2.94	-.2466	.6973	.0056	-.2105	.7090	2.86	-.2710	.7858	.0067	-.2315	.7983
3.96	-.2392	.6850	.0063	-.1913	.6999	3.86	-.2734	.7926	.0005	-.2194	.8092
4.96	-.2440	.6876	.0011	-.1837	.7061	4.87	-.2773	.7996	-.0026	-.2084	.8202
5.96	-.2334	.6874	-.0031	-.1607	.7079	5.87	-.2762	.7959	-.0101	-.1934	.8199
6.96	-.2249	.6744	-.0045	-.1415	.6967	6.88	-.2780	.7940	-.0152	-.1809	.8216
7.96	-.2154	.6572	-.0092	-.1223	.6807	7.88	-.2797	.7923	-.0200	-.1685	.8231
8.97	-.2173	.6679	-.0135	-.1105	.6936	8.88	-.2787	.7838	-.0247	-.1544	.8174
9.97	-.2176	.6880	-.0198	-.0952	.7153	9.89	-.2813	.7787	-.0279	-.1434	.8154
11.97	-.2122	.7103	-.0318	-.0603	.7389	11.91	-.2709	.7588	-.0329	-.1085	.7984
13.98	-.2019	.7082	-.0429	-.0248	.7360	13.93	-.2533	.7557	-.0391	-.0640	.7945
15.98	-.1964	.7386	-.0563	.0145	.7642	15.94	-.2501	.7584	-.0487	-.0322	.7979
17.99	-.1917	.7430	-.0652	.0472	.7659	17.95	-.2405	.7567	-.0580	.0044	.7940
20.00	-.1894	.7646	-.0770	.0835	.7833	19.97	-.2393	.7655	-.0660	.0365	.8012
22.01	-.1852	.7793	-.0858	.1204	.7919	21.99	-.2359	.7888	-.0741	.0767	.8197
23.01	-.1849	.7961	-.0902	.1410	.8051	23.00	-.2327	.7935	-.0792	.0958	.8213

M=0.50			R=2.79 x10⁶		
-1.96	.0610	.9138	.0107	.0297	.9154
-0.98	.0321	.9133	.0056	.0165	.9137
0.00	.0023	.9123	.0027	.0023	.9123
0.84	-.2026	.8829	.0103	-.1897	.8858
1.82	-.2335	.8674	.0069	-.2059	.8744
2.80	-.2600	.8612	.0047	-.2176	.8729
3.79	-.2844	.8520	.0012	-.2275	.8689
4.77	-.3127	.8392	-.0043	-.2418	.8623
5.78	-.3189	.8329	-.0084	-.2334	.8608
6.78	-.3265	.8317	-.0115	-.2260	.8644
7.79	-.3273	.8262	-.0160	-.2123	.8630
8.79	-.3372	.8272	-.0183	-.2068	.8690
9.80	-.3287	.8235	-.0259	-.1837	.8674
11.82	-.3235	.8209	-.0348	-.1484	.8698
13.84	-.3125	.8158	-.0448	-.1083	.8669
15.88	-.3046	.8170	-.0511	-.0695	.8691
17.93	-.2736	.8222	-.0578	-.0072	.8665
19.95	-.2639	.8180	-.0611	.0310	.8589
21.98	-.2605	.8237	-.0683	.0667	.8613
22.99	-.2594	.8242	-.0717	.0831	.8600

TABLE I.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND l/d = 0.50 - Continued

(c) r_c/d = 0.10

M=0.25			R=1.60 x10⁶			M=0.40			R=2.45 x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.02	-.0348	.1857	.0005	-.0413	.1844	-2.03	-.0610	.1883	.0161	-.0677	.1860
-1.00	-.0156	.1755	.0011	-.0187	.1752	-1.01	-.0337	.1772	.0095	-.0368	.1766
0.00	.0039	.1727	.0038	.0039	.1727	0.00	-.0043	.1764	.0050	-.0043	.1764
1.01	.0234	.1797	.0063	.0266	.1793	1.02	.0297	.1804	-.0012	.0329	.1799
2.02	.0501	.1851	.0032	.0566	.1832	2.03	.0586	.1890	-.0089	.0653	.1868
3.02	.0691	.1956	.0005	.0793	.1917	3.05	.0856	.1986	-.0174	.0961	.1937
4.02	.0883	.1980	-.0030	.1020	.1913	4.06	.1095	.2063	-.0257	.1238	.1980
5.03	.1180	.2062	-.0141	.1356	.1951	5.07	.1314	.2147	-.0336	.1499	.2023
6.04	.1370	.2126	-.0170	.1586	.1970	5.99	-.0352	.3574	-.0183	.0023	.3591
7.04	.1704	.2188	-.0317	.1959	.1963	6.92	-.1440	.4265	-.0192	-.0916	.4407
8.05	.1924	.2271	-.0419	.2223	.1980	7.92	-.1738	.4711	-.0218	-.1072	.4905
9.05	.2174	.2413	-.0511	.2527	.2041	8.92	-.1780	.4930	-.0269	-.0994	.5146
10.06	.2430	.2498	-.0635	.2829	.2036	9.92	-.1826	.5129	-.0305	-.0915	.5367
12.02	.0452	.3983	-.0502	.1271	.3802	11.93	-.1830	.5380	-.0394	-.0678	.5642
14.00	-.0255	.4596	-.0692	.0865	.4521	13.94	-.1803	.5629	-.0485	-.0394	.5897
15.99	-.0994	.5309	-.0781	.0506	.5378	15.95	-.1801	.5808	-.0541	-.0136	.6079
17.99	-.1083	.5671	-.0850	.0721	.5728	17.96	-.1704	.5995	-.0660	.0228	.6228
19.99	-.1123	.5942	-.0924	.0976	.5968	19.98	-.1677	.6173	-.0734	.0533	.6374
22.00	-.1073	.6145	-.1016	.1307	.6100	21.98	-.1663	.6322	-.0811	.0824	.6484
23.00	-.1010	.6244	-.1085	.1510	.6143	22.99	-.1677	.6514	-.0863	.1000	.6652
M=0.50			R=2.82 x10⁶			M=0.60			R=3.16 x10⁶		
-2.05	-.0618	.2115	.0144	-.0694	.2092	-1.93	.0511	.4386	.0146	.0363	.4400
-1.01	-.0268	.2069	.0084	-.0304	.2064	-0.96	.0255	.4290	.0093	.0183	.4293
0.01	.0076	.2112	.0025	.0076	.2112	0.02	.0096	.4281	.0022	.0097	.4281
1.03	.0363	.2180	-.0040	.0402	.2173	1.00	-.0020	.4146	-.0048	.0052	.4145
2.05	.0616	.2263	-.0106	.0697	.2240	1.98	-.0194	.4223	-.0103	-.0048	.4227
3.07	.0877	.2350	-.0180	.1002	.2300	2.93	-.0584	.4428	-.0168	-.0357	.4452
4.09	.1100	.2481	-.0251	.1274	.2397	3.87	-.1078	.4702	-.0210	-.0759	.4764
5.10	.1312	.2582	-.0333	.1537	.2455	4.83	-.1498	.4923	-.0237	-.1078	.5032
5.86	-.1774	.4344	-.0139	-.1321	.4502	5.80	-.1793	.5090	-.0255	-.1270	.5245
6.85	-.1953	.4733	-.0167	-.1374	.4932	6.79	-.1943	.5227	-.0279	-.1311	.5420
7.85	-.2064	.5062	-.0200	-.1354	.5297	7.79	-.2108	.5398	-.0296	-.1357	.5634
8.85	-.2116	.5336	-.0243	-.1270	.5599	8.78	-.2191	.5541	-.0319	-.1319	.5810
9.86	-.2135	.5490	-.0274	-.1163	.5775	9.79	-.2202	.5694	-.0364	-.1202	.5985
11.87	-.2096	.5710	-.0368	-.0877	.6019	11.81	-.2213	.5879	-.0422	-.0963	.6208
13.89	-.2053	.5895	-.0454	-.0578	.6216	13.84	-.2209	.6077	-.0479	-.0691	.6429
15.91	-.1993	.6125	-.0552	-.0238	.6436	15.87	-.2191	.6233	-.0546	-.0403	.6594
17.93	-.1963	.6312	-.0626	.0075	.6609	17.90	-.2158	.6486	-.0617	-.0060	.6835
19.95	-.1947	.6509	-.0707	.0391	.6782	19.93	-.2129	.6636	-.0683	.0261	.6965
21.97	-.1884	.6579	-.0779	.0714	.6806						
22.99	-.1876	.6664	-.0815	.0876	.6868						

TABLE I.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND $l/d = 0.50$ - Continued

(d) $r_c/d = 0.20$

M=0.25			R=1.60x10⁶			M=0.40			R=2.45x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_D
-2.02	-.0568	.1829	.0107	-.0632	.1808	-2.03	-.0682	.1879	.0180	-.0749	.1854
-1.01	-.0376	.1753	.0087	-.0407	.1746	-1.01	-.0434	.1826	.0128	-.0466	.1818
0.00	-.0181	.1751	.0106	-.0181	.1751	0.00	-.0136	.1800	.0085	-.0136	.1800
1.01	.0052	.1779	.0116	.0083	.1778	1.02	.0162	.1822	.0025	.0194	.1819
2.01	.0319	.1838	.0066	.0383	.1826	2.03	.0441	.1893	-.0040	.0508	.1876
3.02	.0509	.1925	.0051	.0609	.1895	3.04	.0702	.1972	-.0106	.0806	.1932
4.02	.0733	.1999	-.0036	.0871	.1943	4.05	.0946	.2032	-.0185	.1088	.1960
5.02	.0994	.2061	-.0118	.1170	.1966	5.06	.1173	.2099	-.0262	.1353	.1988
6.03	.1220	.2111	-.0175	.1435	.1971	6.07	.1381	.2174	-.0337	.1603	.2016
7.03	.1476	.2191	-.0284	.1733	.1994	7.09	.1619	.2251	-.0430	.1885	.2034
8.04	.1699	.2256	-.0366	.1998	.1996	8.09	.1842	.2326	-.0514	.2151	.2044
9.05	.1956	.2337	-.0452	.2300	.2000	9.10	.2049	.2397	-.0594	.2402	.2043
10.05	.2173	.2442	-.0535	.2566	.2026	10.11	.2268	.2469	-.0678	.2670	.2052
12.06	.2598	.2654	-.0734	.3096	.2052	12.13	.2679	.2703	-.0865	.3187	.2080
14.07	.3027	.2858	-.0911	.3631	.2036	14.15	.3065	.2957	-.0989	.3695	.2118
16.07	.3464	.3169	-.1111	.4206	.2086	16.04	.0571	.3551	-.0696	.1530	.3255
18.08	.3794	.3443	-.1257	.4676	.2096	18.06	.0807	.3698	-.0813	.1913	.3266
20.04	.1580	.3816	-.0999	.2792	.3044	20.06	.0891	.3846	-.0902	.2156	.3307
22.04	.1665	.4089	-.1110	.3077	.3165	22.07	.0986	.4003	-.0987	.2418	.3340
23.04	.1708	.4172	-.1160	.3205	.3171	23.07	.0989	.4063	-.1020	.2502	.3350
M=0.50			R=2.87x10⁶			M=0.60			R=3.20x10⁶		
-2.05	-.0718	.1872	.0188	-.0785	.1845	-2.08	-.0780	.2186	.0172	-.0858	.2157
-1.03	-.0424	.1776	.0111	-.0456	.1768	-1.05	-.0504	.2060	.0092	-.0542	.2051
-0.01	-.0137	.1743	.0050	-.0137	.1743	-0.02	-.0181	.1897	.0042	-.0182	.1897
1.02	.0174	.1766	-.0009	.0205	.1763	1.04	.0247	.1960	-.0008	.0283	.1956
2.05	.0596	.1879	-.0122	.0663	.1857	2.07	.0541	.2109	-.0085	.0617	.2088
3.06	.0763	.1950	-.0158	.0866	.1906	3.08	.0815	.2220	-.0171	.0933	.2173
4.08	.1001	.2020	-.0231	.1142	.1944	4.10	.0986	.2363	-.0249	.1152	.2287
5.09	.1226	.2099	-.0311	.1407	.1982	4.88	-.1147	.3362	-.0111	-.0857	.3448
6.10	.1453	.2161	-.0386	.1675	.1995	5.86	-.1346	.3683	-.0141	-.0963	.3801
7.13	.1714	.2261	-.0485	.1982	.2031	6.87	-.1390	.3883	-.0167	-.0916	.4021
8.14	.1923	.2345	-.0561	.2236	.2049	7.86	-.1341	.3990	-.0226	-.0782	.4136
9.15	.2155	.2422	-.0649	.2513	.2048	8.88	-.1310	.4098	-.0260	-.0661	.4251
9.94	-.0830	.3569	-.0345	-.0202	.3658	9.89	-.1264	.4182	-.0309	-.0527	.4337
11.95	-.0745	.3792	-.0441	.0056	.3864	11.91	-.1129	.4342	-.0414	-.0209	.4482
13.96	-.0659	.3952	-.0534	.0313	.3994	13.94	-.1016	.4492	-.0508	.0096	.4605
15.99	-.0556	.4103	-.0620	.0596	.4097	15.96	-.0857	.4571	-.0606	.0433	.4631
18.00	-.0445	.4273	-.0722	.0897	.4202	17.98	-.0744	.4686	-.0690	.0738	.4687
20.02	-.0241	.4359	-.0818	.1266	.4179	20.00	-.0642	.4795	-.0779	.1037	.4726
22.04	-.0009	.4547	-.0949	.1698	.4218	22.03	-.0563	.4911	-.0857	.1320	.4763
23.05	.0036	.4586	-.0994	.1829	.4206	23.04	-.0497	.4957	-.0900	.1483	.4757
M=0.70			R=3.53x10⁶								
-1.89	.0739	.2482	.0049	.0657	.2505						
-0.93	.0436	.2452	.0028	.0396	.2459						
0.01	.0033	.2397	.0015	.0033	.2397						
0.96	-.0363	.2399	.0010	-.0323	.2405						
1.91	-.0651	.2376	-.0022	-.0572	.2397						
2.91	-.0629	.2374	-.0058	-.0507	.2403						
3.92	-.0566	.2384	-.0115	-.0402	.2417						
4.93	-.0432	.2381	-.0184	-.0225	.2409						
5.93	-.0411	.2486	-.0225	-.0152	.2515						
6.95	-.0282	.2530	-.0281	.0026	.2545						
7.96	-.0279	.2639	-.0312	.0089	.2653						
8.95	-.0306	.2706	-.0368	.0119	.2721						
9.96	-.0200	.2565	-.0387	.0247	.2561						
12.03	.0223	.2595	-.0479	.0759	.2492						
14.07	.0524	.2716	-.0580	.1168	.2508						
16.10	.0773	.2824	-.0673	.1526	.2499						
18.12	.0947	.2979	-.0774	.1826	.2536						
20.16	.1157	.3136	-.0861	.2167	.2545						
22.20	.1371	.3308	-.0962	.2519	.2545						
23.22	.1439	.3446	-.0995	.2681	.2600						

TABLE I.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND $l/d = 0.50$ - Concluded

(e) $r_c/d = 0.50$

M=0.25			R=1.62x10⁶			M=0.40			R=2.43x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.01	-.0344	.2698	.0236	-.0439	.2684	-2.01	-.0340	.2645	.0175	-.0433	.2631
-1.00	-.0243	.2656	.0195	-.0289	.2652	-1.01	-.0168	.2648	.0110	-.0215	.2645
0.00	-.0067	.2704	.0138	-.0067	.2704	0.00	-.0029	.2666	.0053	-.0029	.2666
1.00	.0072	.2693	.0095	.0119	.2692	1.02	.0156	.2682	-.0017	.0204	.2679
2.01	.0246	.2710	.0025	.0341	.2699	2.02	.0326	.2703	-.0083	.0421	.2690
3.02	.0422	.2713	-.0040	.0564	.2687	3.03	.0511	.2724	-.0153	.0654	.2693
4.02	.0560	.2743	-.0103	.0751	.2697	4.04	.0696	.2732	-.0226	.0886	.2676
5.02	.0738	.2736	-.0175	.0974	.2661	5.04	.0867	.2748	-.0292	.1105	.2661
6.03	.0912	.2781	-.0246	.1199	.2670	6.05	.1003	.2794	-.0355	.1291	.2672
7.03	.1056	.2786	-.0298	.1389	.2636	7.07	.1173	.2824	-.0422	.1512	.2659
8.03	.1263	.2872	-.0380	.1652	.2668	8.07	.1340	.2868	-.0497	.1730	.2652
9.03	.1405	.2888	-.0438	.1841	.2631	9.08	.1479	.2896	-.0555	.1917	.2627
10.04	.1583	.2918	-.0506	.2068	.2597	10.08	.1643	.2962	-.0633	.2136	.2628
12.04	.1931	.3040	-.0680	.2523	.2570	12.10	.1966	.3030	-.0770	.2557	.2551
14.05	.2221	.3089	-.0826	.2905	.2458	14.11	.2222	.3139	-.0902	.2920	.2502
16.05	.2503	.3207	-.0962	.3292	.2390	16.12	.2473	.3210	-.1029	.3267	.2397
18.06	.2806	.3381	-.1120	.3716	.2344	18.14	.2737	.3309	-.1156	.3631	.2293
20.06	.3076	.3547	-.1272	.4106	.2277	20.15	.2940	.3450	-.1271	.3948	.2226
22.07	.3314	.3706	-.1398	.4463	.2189	22.16	.3138	.3570	-.1377	.4253	.2122
23.07	.3425	.3755	-.1460	.4622	.2113	23.16	.3193	.3640	-.1419	.4368	.2091
M=0.50			R=2.62x10⁶			M=0.60			R=3.16x10⁶		
-2.02	-.0338	.2661	.0154	-.0432	.2647	-2.03	-.0339	.2660	.0145	-.0433	.2646
-1.01	-.0154	.2640	.0083	-.0201	.2637	-1.01	-.0149	.2670	.0074	-.0196	.2667
0.00	.0022	.2656	.0017	.0022	.2656	0.00	.0048	.2706	.0000	.0048	.2706
1.02	.0185	.2681	-.0048	.0233	.2678	1.03	.0213	.2702	-.0064	.0262	.2698
2.03	.0371	.2693	-.0118	.0466	.2678	2.04	.0424	.2724	-.0145	.0521	.2707
3.04	.0566	.2719	-.0194	.0709	.2685	3.05	.0588	.2752	-.0211	.0733	.2717
4.05	.0728	.2751	-.0259	.0920	.2693	4.08	.0775	.2780	-.0285	.0971	.2718
5.07	.0891	.2772	-.0327	.1133	.2682	5.11	.0954	.2828	-.0224	.1202	.2732
6.08	.1052	.2798	-.0398	.1342	.2671	6.10	.1104	.2880	-.0429	.1404	.2747
7.09	.1245	.2848	-.0478	.1587	.2672	7.13	.1280	.2920	-.0502	.1632	.2738
8.10	.1395	.2885	-.0543	.1787	.2659	8.14	.1457	.2966	-.0581	.1862	.2730
9.11	.1535	.2929	-.0604	.1980	.2649	9.15	.1608	.3014	-.0650	.2067	.2720
10.12	.1697	.2969	-.0676	.2193	.2625	10.16	.1756	.3041	-.0715	.2264	.2683
12.15	.2014	.3077	-.0821	.2617	.2584	12.20	.2043	.3139	-.0851	.2660	.2636
14.16	.2287	.3153	-.0955	.2989	.2498	14.22	.2263	.3227	-.0962	.2987	.2572
16.18	.2541	.3270	-.1079	.3351	.2432	16.23	.2490	.3297	-.1075	.3312	.2470
18.19	.2749	.3368	-.1188	.3663	.2342	18.25	.2660	.3400	-.1174	.3591	.2396
20.21	.2923	.3469	-.1288	.3941	.2245	20.28	.2858	.3593	-.1285	.3926	.2379
22.23	.3091	.3599	-.1386	.4223	.2162	22.30	.2984	.3707	-.1364	.4168	.2298
23.23	.3155	.3661	-.1428	.4343	.2120	23.30	.3032	.3745	-.1399	.4266	.2241
M=0.70			R=3.35x10⁶			M=0.80			R=3.52x10⁶		
-2.04	-.0359	.2846	.0148	-.0460	.2831	-2.03	-.0124	.4441	.0091	-.0281	.4434
-1.02	-.0158	.2806	.0071	-.0208	.2803	-1.01	-.0087	.4430	.0051	-.0165	.4427
0.00	.0031	.2809	-.0005	.0031	.2809	0.00	-.0049	.4448	.0010	-.0049	.4448
1.03	.0220	.2814	-.0076	.0271	.2810	1.01	-.0016	.4404	-.0029	.0062	.4403
2.05	.0416	.2833	-.0152	.0517	.2816	2.01	.0014	.4401	-.0065	.0168	.4398
3.06	.0586	.2867	-.0224	.0738	.2832	3.02	.0043	.4387	-.0104	.0274	.4379
4.09	.0773	.2903	-.0304	.0978	.2841	4.03	.0078	.4377	-.0141	.0386	.4361
5.11	.0929	.2927	-.0368	.1186	.2832	5.04	.0099	.4406	-.0177	.0486	.4380
6.13	.1090	.2974	-.0438	.1402	.2841	6.06	.0131	.4388	-.0209	.0593	.4349
7.15	.1224	.3032	-.0499	.1591	.2856	7.07	.0175	.4399	-.0251	.0715	.4344
8.16	.1354	.3096	-.0562	.1779	.2873	8.08	.0203	.4410	-.0291	.0821	.4337
9.18	.1494	.3142	-.0629	.1976	.2864	9.09	.0246	.4401	-.0329	.0938	.4307
10.20	.1620	.3194	-.0691	.2160	.2857	10.11	.0300	.4422	-.0369	.1071	.4300
12.22	.1854	.3287	-.0807	.2508	.2821	12.14	.0456	.4446	-.0470	.1381	.4251
14.26	.2047	.3360	-.0911	.2812	.2752	14.18	.0601	.4564	-.0571	.1701	.4278
16.28	.2168	.3542	-.0999	.3074	.2792	16.22	.0756	.4886	-.0697	.2091	.4481
18.30	.2325	.3696	-.1095	.3368	.2779	18.25	.0875	.4994	-.0795	.2395	.4469
20.33	.2425	.3929	-.1186	.3639	.2841	20.28	.1000	.4918	-.0869	.2643	.4266
22.34	.2484	.4105	-.1260	.3858	.2853	22.31	.1175	.4836	-.0952	.2923	.4028
23.35	.2556	.4137	-.1305	.3987	.2785	23.33	.1242	.4887	-.0994	.3075	.3995

TABLE II.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND $l/d = 1.00$

(a) $r_c/d = 0.00$

M=0.25			R=1.68x10⁶			M=0.40			R=2.50x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-1.99	.0439	1.1021	.0285	.0056	1.1029	-1.98	.0384	1.1170	.0188	-.0002	1.1176
-0.99	.0205	1.1007	.0250	.0015	1.1009	-0.99	.0191	1.1258	.0162	-.0004	1.1259
0.01	-.0028	1.0988	.0215	-.0026	1.0988	0.01	-.0041	1.1231	.0122	-.0039	1.1231
1.01	-.0259	1.1008	.0180	-.0065	1.1011	1.01	-.0240	1.1200	.0078	-.0043	1.1202
2.00	-.0488	1.0979	.0144	-.0105	1.0989	2.00	-.0464	1.1165	.0051	-.0074	1.1174
3.00	-.0681	1.0993	.0093	-.0105	1.1014	3.00	-.0644	1.1129	.0002	-.0061	1.1148
4.00	-.0878	1.1047	.0035	-.0105	1.1081	3.99	-.0883	1.1083	-.0045	-.0110	1.1117
5.00	-.1067	1.1009	-.0004	-.0103	1.1060	4.99	-.1096	1.1111	-.0069	-.0126	1.1164
6.00	-.1326	1.0961	-.0032	-.0173	1.1040	5.99	-.1321	1.1096	-.0107	-.0156	1.1173
7.00	-.1588	1.0953	-.0049	-.0241	1.1065	6.97	-.1553	1.1038	-.0152	-.0203	1.1144
7.99	-.1881	1.0887	-.0107	-.0350	1.1042	7.97	-.1827	1.1045	-.0164	-.0278	1.1191
8.98	-.2164	1.0772	-.0160	-.0456	1.0978	8.97	-.2122	1.0967	-.0211	-.0386	1.1164
9.98	-.2497	1.0731	-.0236	-.0599	1.1002	9.95	-.2461	1.0986	-.0263	-.0526	1.1246
11.97	-.2730	1.0759	-.0423	-.0440	1.1091	11.94	-.2830	1.0838	-.0406	-.0527	1.1189
13.98	-.2612	1.0732	-.0660	.0058	1.1045	13.94	-.2895	1.0824	-.0583	-.0202	1.1202
15.99	-.2124	1.0644	-.0956	.0890	1.0817	15.95	-.2591	1.0844	-.0877	.0489	1.1139
18.00	-.1163	1.0615	-.1278	.2174	1.0455	17.98	-.2193	1.0859	-.1082	.1266	1.1006
20.03	.0009	1.0748	-.1559	.3689	1.0095	20.01	-.1299	1.0661	-.1360	.2427	1.0461
22.04	.0516	1.1061	-.1638	.4629	1.0059	22.06	-.0360	1.0799	-.1265	.3722	1.0143
23.04	.0726	1.1317	-.1693	.5097	1.0130	23.08	-.0149	1.0932	-.1598	.4149	1.0115

(b) $r_c/d = 0.05$

M=0.25			R=1.65x10⁶			M=0.40			R=2.47x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.00	-.0918	.4722	.0510	-.1082	.4687	-1.99	-.0756	.5139	.0668	-.0934	.5110
-1.00	-.0421	.4733	.0315	-.0504	.4725	-1.00	-.0523	.5027	.0416	-.0611	.5017
0.01	-.0030	.4720	.0178	-.0029	.4720	0.01	-.0071	.4978	.0126	-.0070	.4978
1.01	.0548	.4612	-.0010	.0629	.4601	1.01	.0469	.5077	-.0253	.0559	.5068
2.01	.0832	.4675	-.0130	.0995	.4643	2.00	.0660	.5260	-.0605	.0844	.5234
3.02	.1125	.4619	-.0199	.1366	.4554	2.99	.0865	.5347	-.0803	.1143	.5295
4.02	.1415	.4661	-.0287	.1739	.4551	4.00	.1076	.5426	-.0885	.1452	.5338
5.04	.1724	.4588	-.0242	.2120	.4419	5.01	.1256	.5476	-.0957	.1729	.5345
6.04	.2104	.4578	-.0254	.2574	.4332	6.02	.1418	.5569	-.1014	.1994	.5389
7.05	.2311	.4738	-.0326	.2876	.4418	7.02	.1559	.5668	-.1100	.2240	.5434
8.05	.2518	.4884	-.0398	.3177	.4483	8.04	.1734	.5761	-.1143	.2523	.5461
9.05	.2677	.5076	-.0488	.3442	.4592	9.05	.1944	.5830	-.1172	.2837	.5451
10.06	.2860	.5304	-.0599	.3743	.4722	10.06	.2110	.5903	-.1193	.3109	.5443
12.06	.3208	.5805	-.0802	.4350	.5007	12.08	.2503	.6179	-.1209	.3741	.5518
14.07	.3378	.6327	-.0985	.4815	.5316	14.11	.2681	.6557	-.1297	.4198	.5705
16.07	.3469	.6900	-.1187	.5243	.5670	16.12	.2844	.6994	-.1411	.4674	.5929
18.07	.3546	.7450	-.1339	.5682	.5983	18.13	.2901	.7346	-.1508	.5043	.6078
20.08	.3562	.7984	-.1490	.6086	.6276	20.13	.2812	.7787	-.1595	.5320	.6343
22.08	.3552	.8529	-.1623	.6497	.6568	22.13	.2462	.8159	-.1620	.5355	.6631
23.08	.3360	.8747	-.1663	.6520	.6730	23.13	.2336	.8383	-.1645	.5441	.6791

M=0.50			R=2.90x10⁶		
-1.97	.0024	.6228	.0421	-.0190	.6225
-1.01	-.0153	.6148	.0062	-.0261	.6144
-0.04	-.0201	.5992	-.0172	-.0205	.5992
0.93	-.0218	.5960	-.0467	-.0121	.5963
1.93	-.0111	.5939	-.0627	.0089	.5940
2.93	-.0081	.6045	-.0770	.0228	.6041
3.93	.0004	.6135	-.0863	.0424	.6121
4.92	-.0072	.6316	-.0975	.0470	.6299
5.92	-.0044	.6356	-.1092	.0612	.6327
6.92	.0108	.6440	-.1189	.0883	.6380
7.93	.0201	.6549	-.1260	.1103	.6458
8.96	.0549	.6654	-.1340	.1578	.6487
9.98	.0853	.6716	-.1376	.2004	.6466
12.03	.1263	.7020	-.1432	.2698	.6603
14.06	.1500	.7325	-.1474	.3235	.6742
16.10	.1752	.7588	-.1459	.3787	.6804
18.14	.2001	.7935	-.1487	.4372	.6918
20.16	.1999	.8278	-.1542	.4730	.7082
22.15	.1777	.8597	-.1751	.4887	.7293
23.15	.1611	.8738	-.1744	.4916	.7401

TABLE II.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND l/d = 1.00 - Continued

(c) r_c/d = 0.10

M=0.25			R=1.68x10⁶			M=0.40			R=2.55x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.01	-.0818	.1654	.0273	-.0875	.1624	-2.03	-.0887	.1640	.0198	-.0944	.1608
-1.01	-.0483	.1520	.0194	-.0510	.1511	-1.02	-.0538	.1495	.0134	-.0565	.1485
0.01	-.0063	.1489	.0171	-.0063	.1489	0.01	-.0055	.1455	.0094	-.0055	.1455
1.01	.0316	.1604	.0120	.0344	.1598	1.02	.0332	.1599	.0046	.0360	.1593
2.02	.0656	.1731	.0071	.0717	.1707	2.03	.0693	.1697	-.0002	.0653	.1675
3.02	.0959	.1781	.0024	.1052	.1728	3.05	.0971	.1829	-.0066	.1067	.1774
4.03	.1257	.1886	-.0030	.1387	.1793	4.06	.1246	.1876	-.0112	.1376	.1783
5.03	.1523	.1933	-.0076	.1686	.1792	5.07	.1533	.1952	-.0160	.1699	.1809
6.03	.1787	.2013	-.0115	.1988	.1814	6.08	.1775	.2017	-.0205	.1979	.1818
7.04	.2085	.2106	-.0177	.2327	.1834	7.09	.2073	.2115	-.0261	.2318	.1843
8.04	.2383	.2212	-.0233	.2669	.1857	8.12	.2484	.2805	-.0365	.2855	.2426
9.05	.2674	.2349	-.0288	.3010	.1899	9.12	.2821	.3141	-.0494	.3283	.2654
10.06	.2894	.2466	-.0328	.3281	.1922	10.13	.3129	.3506	-.0633	.3697	.2901
12.07	.3582	.3452	-.0508	.4225	.2627	12.14	.3655	.4221	-.0912	.4461	.3358
14.07	.4170	.4295	-.0793	.5089	.3152	14.15	.4024	.4853	-.1183	.5088	.3722
16.08	.4613	.5113	-.1099	.5849	.3635	16.16	.4121	.5431	-.1446	.5470	.4069
18.08	.4776	.5706	-.1412	.6311	.3942	18.14	.3880	.5922	-.1668	.5531	.4420
20.08	.4773	.6365	-.1706	.6668	.4339	20.13	.3457	.6532	-.1782	.5494	.4943
22.07	.4403	.6882	-.1871	.6666	.4724	22.12	.2933	.7016	-.1796	.5359	.5396
23.07	.4140	.7072	-.1872	.6580	.4884	23.12	.2748	.7255	-.1799	.5368	.5575
M=0.50			R=2.97x10⁶			M=0.60			R=3.32x10⁶		
-2.01	.0167	.1702	-.0107	.0107	.1707	-2.06	-.0918	.3488	.0255	-.1042	.3453
-1.04	-.0543	.1658	.0089	-.0573	.1648	-1.04	-.0619	.3446	.0153	-.0682	.3434
0.01	-.0049	.1576	.0056	-.0049	.1576	-0.01	-.0178	.3267	.0043	-.0179	.3267
1.03	.0361	.1687	.0013	.0391	.1681	1.04	.0420	.3405	-.0065	.0482	.3396
2.05	.0671	.1834	-.0034	.0737	.1809	2.06	.0726	.3538	-.0168	.0853	.3510
3.09	.0985	.1875	.0105	.1085	.1819	3.07	.0959	.3641	-.0264	.1153	.3585
4.08	.1238	.1961	-.0126	.1375	.1868	4.09	.1285	.3798	-.0389	.1553	.3696
5.11	.1516	.2115	-.0172	.1698	.1972	5.10	.1547	.3867	-.0499	.1885	.3714
6.12	.1803	.2256	-.0228	.2034	.2051	6.12	.1800	.3986	-.0615	.2215	.3771
7.14	.2240	.2724	-.0386	.2562	.2425	7.13	.2058	.4133	-.0751	.2555	.3846
8.15	.2604	.3025	-.0527	.3007	.2625	8.14	.2289	.4269	-.0847	.2870	.3902
9.17	.2915	.3334	-.0664	.3409	.2826	9.16	.2528	.4436	-.0952	.3202	.3977
10.18	.3224	.3680	-.0815	.3823	.3052	10.18	.2734	.4647	-.1047	.3512	.4091
12.19	.3696	.4358	-.1130	.4533	.3480	12.20	.3082	.5065	-.1197	.4082	.4300
14.19	.3889	.4987	-.1444	.4993	.3882	14.24	.3372	.5525	-.1360	.4627	.4526
16.18	.3700	.5565	-.1632	.5104	.4314	16.25	.3516	.6035	-.1546	.5065	.4810
18.17	.3340	.6201	-.1734	.5107	.4850	18.24	.3388	.6441	-.1710	.5234	.5057
20.15	.2814	.6694	-.1755	.4948	.5315	20.21	.2902	.6826	-.1756	.5081	.5403
22.14	.2309	.7102	-.1726	.4816	.5708	22.21	.2524	.7201	-.1772	.5059	.5713
23.15	.2176	.7283	-.1727	.4864	.5842	23.22	.2390	.7552	-.1792	.5173	.5998
M=0.70			R=3.62x10⁶								
-1.98	-.0500	.5035	.0503	-.0674	.5015						
-0.99	-.0367	.4854	.0290	-.0451	.4847						
0.00	-.0108	.4813	.0078	-.0108	.4813						
1.00	.0231	.4842	-.0153	.0315	.4837						
1.99	.0410	.4985	-.0369	.0583	.4968						
2.99	.0582	.5062	-.0562	.0845	.5025						
3.99	.0722	.5145	-.0724	.1078	.5083						
4.99	.0861	.5309	-.0885	.1320	.5214						
5.99	.1036	.5456	-.1017	.1599	.5318						
7.00	.1203	.5596	-.1132	.1876	.5407						
8.02	.1405	.5749	-.1212	.2193	.5497						

TABLE II.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND l/d = 1.00 - Continued

(d) r_c/d = 0.20

M = 0.25			R = 1.77 x 10⁶			M = 0.40			R = 2.70 x 10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.01	-.0603	.1760	.0043	-.0665	.1738	-2.02	-.0625	.1772	.0104	-.0687	.1749
-1.00	-.0287	.1679	-.0019	-.0316	.1674	-1.01	-.0295	.1662	.0058	-.0324	.1657
0.00	.0173	.1677	-.0056	.0173	.1677	0.00	.0114	.1602	.0022	.0114	.1602
1.01	.0495	.1759	-.0104	.0526	.1750	1.03	.0518	.1746	-.0030	.0549	.1737
2.01	.0859	.1878	-.0162	.0924	.1847	2.04	.0847	.1864	-.0080	.0912	.1833
3.02	.1178	.2008	-.0211	.1282	.1943	3.05	.1100	.1960	-.0122	.1202	.1898
4.02	.1458	.2054	-.0242	.1598	.1947	4.06	.1405	.2053	-.0178	.1546	.1949
5.03	.1693	.2131	-.0255	.1873	.1975	5.07	.1675	.2134	-.0222	.1857	.1978
6.04	.2008	.2249	-.0296	.2234	.2026	6.09	.1960	.2239	-.0264	.2187	.2018
7.04	.2234	.2367	-.0326	.2507	.2075	7.10	.2209	.2339	-.0291	.2481	.2048
8.05	.2499	.2502	-.0366	.2824	.2127	8.12	.2468	.2471	-.0346	.2792	.2097
9.05	.2808	.2629	-.0426	.3187	.2154	9.13	.2728	.2584	-.0391	.3103	.2118
10.06	.3070	.2785	-.0459	.3509	.2206	10.14	.2968	.2705	-.0428	.3398	.2140
12.07	.3583	.3103	-.0551	.4153	.2285	12.17	.3466	.3009	-.0525	.4022	.2210
14.08	.4070	.3509	-.0644	.4802	.2414	14.19	.3892	.3697	-.0665	.4679	.2630
16.09	.4546	.3907	-.0746	.5451	.2494	16.21	.4331	.4328	-.0866	.5367	.2947
18.10	.4920	.4730	-.0885	.6147	.2967	18.22	.4703	.4955	-.1087	.6016	.3237
20.11	.5287	.5431	-.1123	.6832	.3282	20.25	.5046	.5528	-.1314	.6647	.3439
22.11	.5566	.6044	-.1358	.7432	.3505	22.25	.5156	.5945	-.1537	.7023	.3550
23.12	.5702	.6280	-.1475	.7710	.3537	23.24	.5037	.6132	-.1692	.7048	.3647
M = 0.50			R = 3.10 x 10⁶			M = 0.60			R = 3.29 x 10⁶		
-2.04	-.0615	.1757	.0084	-.0678	.1734	-2.06	-.0672	.1941	.0066	-.0742	.1916
-1.02	-.0316	.1645	.0035	-.0345	.1639	-1.04	-.0375	.1860	.0028	-.0409	.1853
0.01	.0127	.1583	.0003	.0127	.1583	0.01	.0115	.1724	-.0001	.0115	.1724
1.04	.0505	.1710	-.0040	.0536	.1701	1.05	.0524	.1915	-.0038	.0559	.1905
2.05	.0816	.1809	-.0089	.0880	.1779	2.08	.0827	.2039	-.0080	.0900	.2008
3.07	.1102	.1898	-.0133	.1202	.1836	3.10	.1125	.2165	-.0133	.1240	.2101
4.10	.1371	.1999	-.0171	.1510	.1896	4.12	.1390	.2329	-.0188	.1553	.2223
5.11	.1640	.2096	-.0213	.1820	.1942	5.15	.1693	.2488	-.0260	.1909	.2326
6.13	.1931	.2208	-.0260	.2156	.1989	6.17	.2023	.2700	-.0356	.2301	.2467
7.15	.2194	.2313	-.0303	.2465	.2022	7.20	.2340	.2886	-.0455	.2684	.2570
8.17	.2466	.2443	-.0338	.2788	.2068	8.22	.2642	.3083	-.0559	.3056	.2673
9.19	.2726	.2551	-.0380	.3098	.2083	9.25	.2926	.3309	-.0652	.3420	.2796
10.20	.2994	.2931	-.0475	.3466	.2355	10.27	.3189	.3573	-.0750	.3775	.2947
12.24	.3586	.3557	-.0682	.4258	.2716	12.32	.3670	.4128	-.0937	.4466	.3250
14.28	.4039	.4125	-.0874	.4931	.3002	14.35	.4044	.4642	-.1108	.5068	.3495
16.30	.4400	.4690	-.1072	.5539	.3266	16.38	.4335	.5092	-.1294	.5595	.3662
18.32	.4698	.5178	-.1265	.6088	.3439	18.39	.4388	.5527	-.1532	.5908	.3861
20.32	.4791	.5638	-.1533	.6451	.3623	20.35	.3917	.5872	-.1634	.5715	.4144
22.29	.4312	.5927	-.1696	.6238	.3849	22.31	.3087	.6184	-.1577	.5204	.4549
23.29	.4015	.6084	-.1703	.6094	.4001	23.31	.2960	.6298	-.1576	.5210	.4613
M = 0.70			R = 3.70 x 10⁶			M = 0.75			R = 3.74 x 10⁶		
-2.04	-.0903	.3543	.0560	-.1028	.3509	-1.96	-.0235	.4254	.0529	-.0380	.4244
-1.03	-.0585	.3390	.0304	-.0646	.3378	-0.99	-.0133	.4022	.0238	-.0203	.4019
0.02	.0251	.3273	-.0075	.0252	.3273	0.00	.0090	.3868	-.0060	.0090	.3868
1.03	.0710	.3446	-.0376	.0772	.3432	0.98	.0258	.4073	-.0358	.0328	.4068
2.05	.1031	.3679	-.0585	.1162	.3640	1.96	.0332	.4282	-.0600	.0478	.4269
3.07	.1336	.3837	-.0735	.1540	.3760	2.96	.0445	.4498	-.0784	.0676	.4469
4.10	.1582	.3960	-.0845	.1861	.3837	3.97	.0612	.4710	-.0935	.0937	.4657
5.12	.1841	.4054	-.0922	.2196	.3874	4.99	.0803	.4861	-.1040	.1223	.4773
6.15	.2084	.4217	-.0994	.2524	.3970	6.00	.0926	.5085	-.1116	.1453	.4960
7.17	.2270	.4354	-.1047	.2795	.4037	7.05	.1189	.5221	-.1181	.1821	.5036
8.21	.2517	.4509	-.1098	.3135	.4104	8.07	.1342	.5408	-.1235	.2088	.5166
9.24	.2715	.4635	-.1137	.3424	.4139						
10.27	.2891	.4799	-.1161	.3701	.4207						
12.32	.3278	.5237	-.1281	.4320	.4417						
14.38	.3640	.5711	-.1377	.4944	.4628						
16.44	.3927	.6171	-.1446	.5512	.4808						
18.48	.4044	.6547	-.1546	.5910	.4927						
20.51	.4091	.7032	-.1660	.6296	.5153						
22.53	.4042	.7351	-.1724	.6551	.5241						
23.54	.4022	.7543	-.1759	.6700	.5309						

TABLE II.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND l/d = 1.00 - Concluded

(e) r_c/d = 0.50

M=0.25			R=1.79x10⁶			M=0.40			R=2.63x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.01	-.0590	.1876	.0117	-.0656	.1854	-2.02	-.0588	.1777	.0116	-.0651	.1755
-1.01	-.0366	.1795	.0050	-.0398	.1789	-1.01	-.0242	.1686	.0046	-.0272	.1682
0.00	.0084	.1792	-.0035	.0084	.1792	0.01	.0162	.1702	-.0020	.0162	.1702
1.01	.0405	.1873	-.0083	.0438	.1866	1.02	.0492	.1816	-.0079	.0524	.1807
2.01	.0678	.2010	-.0129	.0748	.1985	2.03	.0836	.1935	-.0146	.0904	.1904
3.02	.1036	.2069	-.0212	.1144	.2011	3.05	.1070	.2013	-.0198	.1175	.1953
4.02	.1363	.2141	-.0221	.1510	.2040	4.06	.1305	.2062	-.0251	.1448	.1965
5.02	.1538	.2233	-.0305	.1727	.2089	5.07	.1572	.2150	-.0315	.1756	.2003
6.03	.1760	.2338	-.0359	.1996	.2140	6.08	.1820	.2240	-.0373	.2047	.2034
7.03	.2072	.2439	-.0416	.2355	.2167	7.09	.2084	.2330	-.0437	.2356	.2055
8.04	.2342	.2501	-.0490	.2669	.2148	8.10	.2329	.2428	-.0491	.2648	.2076
9.04	.2521	.2605	-.0527	.2899	.2177	9.11	.2590	.2539	-.0550	.2959	.2097
10.05	.2825	.2740	-.0594	.3260	.2205	10.11	.2650	.2643	-.0559	.3073	.2137
12.05	.3263	.2961	-.0714	.3809	.2215	12.14	.3284	.2907	-.0716	.3822	.2151
14.07	.3764	.3287	-.0856	.4450	.2273	14.16	.3698	.3146	-.0823	.4356	.2145
16.08	.4218	.3619	-.0965	.5055	.2309	16.18	.4063	.3488	-.0927	.4874	.2218
18.09	.4677	.4069	-.1086	.5709	.2416	18.20	.4418	.3833	-.1028	.5394	.2261
20.10	.4977	.4409	-.1184	.6189	.2430	20.22	.4785	.4229	-.1141	.5952	.2314
22.10	.5341	.4810	-.1319	.6759	.2448	22.24	.5135	.4649	-.1252	.6513	.2359
23.11	.5519	.5026	-.1355	.7049	.2457	23.25	.5286	.4813	-.1299	.6757	.2335
M=0.50			R=3.10x10⁶			M=0.60			R=3.45x10⁶		
-2.03	-.0581	.1730	.0106	-.0642	.1708	-2.05	-.0585	.1701	.0104	-.0646	.1679
-1.01	-.0218	.1629	.0041	-.0247	.1625	-1.02	-.0249	.1592	.0040	-.0277	.1588
0.01	.0161	.1640	-.0013	.0161	.1640	0.01	.0157	.1603	-.0017	.0157	.1603
1.03	.0498	.1779	-.0077	.0530	.1770	1.05	.0503	.1726	-.0079	.0535	.1717
2.05	.0829	.1892	-.0151	.0896	.1861	2.07	.0835	.1841	-.0148	.0900	.1810
3.07	.1064	.1967	-.0201	.1167	.1907	3.09	.1093	.1925	-.0204	.1195	.1863
4.08	.1321	.2039	-.0260	.1463	.1940	4.11	.1367	.2012	-.0268	.1507	.1909
5.10	.1600	.2130	-.0323	.1783	.1980	5.13	.1638	.2109	-.0326	.1820	.1955
6.11	.1868	.2200	-.0383	.2091	.1989	6.15	.1892	.2185	-.0384	.2115	.1969
7.13	.2128	.2310	-.0447	.2399	.2028	7.18	.2165	.2313	-.0444	.2437	.2024
8.14	.2369	.2401	-.0499	.2685	.2042	8.20	.2442	.2403	-.0507	.2760	.2030
9.16	.2628	.2506	-.0561	.2993	.2056	9.22	.2675	.2536	-.0563	.3046	.2074
10.18	.2857	.2636	-.0615	.3278	.2090	10.24	.2933	.2665	-.0623	.3360	.2102
12.21	.3341	.2877	-.0728	.3873	.2105	12.29	.3404	.2906	-.0733	.3945	.2114
14.24	.3759	.3164	-.0834	.4421	.2142	14.33	.3861	.3210	-.0849	.4536	.2154
16.27	.4172	.3533	-.0947	.4995	.2223	16.37	.4276	.3587	-.0957	.5114	.2237
18.30	.4545	.3917	-.1054	.5545	.2292	18.41	.4643	.3958	-.1062	.5655	.2289
20.33	.4863	.4272	-.1152	.6044	.2316	20.45	.5011	.4348	-.1171	.6214	.2323
22.37	.5398	.4739	-.1308	.6796	.2328	22.49	.5344	.4710	-.1278	.6740	.2308
23.37	.5350	.4829	-.1309	.6827	.2311	23.50	.5464	.4900	-.1327	.6965	.2315
M=0.70			R=3.73x10⁶			M=0.80			R=3.88x10⁶		
-2.07	-.0637	.1832	.0104	-.0703	.1808	-2.07	-.0771	.2586	.0301	-.0863	.2556
-1.04	-.0304	.1671	.0043	-.0334	.1665	-1.05	-.0424	.2478	.0139	-.0469	.2470
0.02	.0183	.1654	-.0018	.0184	.1654	0.03	.0262	.2420	-.0060	.0263	.2420
1.06	.0520	.1817	-.0078	.0554	.1807	1.06	.0657	.2619	-.0252	.0705	.2607
2.09	.0865	.1938	-.0147	.0935	.1905	2.07	.0901	.2800	-.0392	.1001	.2765
3.11	.1142	.2029	-.0205	.1250	.1964	3.09	.1043	.2961	-.0467	.1201	.2901
4.15	.1431	.2125	-.0267	.1581	.2015	4.11	.1195	.3088	-.0528	.1413	.2994
5.18	.1715	.2262	-.0330	.1912	.2098	5.12	.1238	.3423	-.0556	.1538	.3299
6.21	.1999	.2364	-.0392	.2243	.2134	6.14	.1365	.3416	-.0595	.1722	.3250
7.24	.2287	.2533	-.0461	.2588	.2225	7.16	.1506	.3575	-.0638	.1940	.3359
8.27	.2573	.2643	-.0530	.2926	.2246	8.17	.1527	.3761	-.0656	.2046	.3506
9.30	.2848	.2762	-.0597	.3257	.2266	9.19	.1579	.3956	-.0679	.2191	.3653
10.33	.3113	.2884	-.0666	.3580	.2279	10.21	.1782	.4038	-.0731	.2470	.3658
12.39	.3704	.3276	-.0839	.4321	.2405	12.27	.2019	.4392	-.0810	.2906	.3863
14.45	.4204	.3763	-.1026	.5010	.2595	14.31	.2265	.4719	-.0897	.3361	.4013
16.51	.4682	.4267	-.1195	.5702	.2760	16.38	.2563	.5055	-.1006	.3885	.4127
18.54	.5032	.4693	-.1333	.6263	.2849	18.42	.2810	.5364	-.1102	.4361	.4201
20.59	.5431	.5114	-.1491	.6882	.2877	20.47	.3090	.5620	-.1211	.4860	.4184
22.64	.5746	.5518	-.1639	.7427	.2881	22.52	.3327	.6032	-.1332	.5383	.4298
23.66	.5843	.5695	-.1689	.7637	.2871	23.55	.3461	.6160	-.1391	.5634	.4264

TABLE III.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND $l/d = 1.50$

(a) $r_c/d = 0.000$

M=0.25			R=1.60x10⁶			M=0.40			R=2.46x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-1.97	.0603	.9047	.0699	.0292	.9063	-1.94	.0613	.9883	.0477	.0278	.9898
-0.98	.0424	.9177	.0431	.0267	.9183	-0.97	.0321	.9925	.0302	.0153	.9929
0.01	.0095	.9195	.0196	.0097	.9195	0.01	.0027	.9922	.0134	.0029	.9922
1.00	-.0155	.9095	-.0051	.0004	.9097	1.00	-.0234	.9839	-.0028	-.0062	.9842
1.99	-.0401	.8988	-.0304	-.0089	.8997	1.97	-.0548	.9711	-.0173	-.0214	.9724
2.98	-.0569	.8877	-.0594	-.0106	.8895	2.96	-.0743	.9730	-.0326	-.0240	.9755
3.97	-.0595	.8770	-.1032	.0013	.8790	3.94	-.0999	.9664	-.0552	-.0333	.9710
4.97	-.0261	.8471	-.1477	.0474	.8462	4.91	-.1103	.9339	-.0954	-.0300	.9399
5.97	.0320	.8434	-.1979	.1195	.8355	5.88	-.0863	.9043	-.1506	.0068	.9083
6.96	.0888	.8620	-.2408	.1926	.8448	6.89	-.0389	.8940	-.1892	.0686	.8922
7.97	.1347	.8821	-.2656	.2557	.8549	7.90	.0378	.8892	-.2382	.1596	.8756
8.98	.1658	.9046	-.2782	.3050	.8676	8.91	.0816	.9056	-.2659	.2209	.8821
9.98	.1889	.9319	-.2810	.3475	.8851	9.94	.1281	.9287	-.2795	.2865	.8927
12.00	.2157	.9823	-.2803	.4152	.9160	11.97	.1691	.9743	-.2891	.3675	.9180
14.02	.2400	1.0337	-.2811	.4833	.9448	14.01	.2003	1.0152	-.2874	.4401	.9365
16.04	.2662	1.0744	-.2727	.5527	.9590	16.05	.2212	1.0575	-.2880	.5050	.9551
18.06	.2981	1.1302	-.2669	.6338	.9821	18.10	.2475	1.1019	-.2736	.5776	.9705
20.08	.3349	1.1878	-.2718	.7223	1.0006	20.13	.2652	1.1349	-.2775	.6396	.9743
22.09	.3612	1.2466	-.2804	.8035	1.0193	22.16	.2766	1.1688	-.2813	.6971	.9782
23.10	.3675	1.2701	-.2899	.8363	1.0241	23.18	.2756	1.2022	-.2855	.7266	.9966

(b) $r_c/d = 0.05$

M=0.25			R=1.60x10⁶			M=0.40			R=2.42x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.01	-.1147	.5341	.0622	-.1333	.5298	-1.98	-.1017	.5494	.1120	-.1206	.5456
-1.01	-.0773	.5212	.0402	-.0865	.5197	-0.98	-.0669	.5416	.0761	-.0762	.5404
0.00	-.0212	.5097	.0109	-.0212	.5097	0.01	-.0170	.5292	.0245	-.0169	.5292
1.00	.0291	.5071	-.0121	.0379	.5065	1.00	.0541	.5335	-.0420	.0634	.5325
2.01	.0596	.5147	-.0278	.0777	.5123	2.00	.0947	.5313	-.0729	.1131	.5277
3.01	.0917	.5173	-.0345	.1188	.5118	3.01	.1249	.5361	-.0937	.1529	.5288
4.02	.1208	.5168	-.0390	.1567	.5070	4.02	.1532	.5497	-.1093	.1913	.5376
5.03	.1464	.5173	-.0384	.1912	.5025	5.04	.1778	.5570	-.1159	.2260	.5392
6.05	.1785	.5042	-.0266	.2306	.4826	6.06	.1999	.5635	-.1140	.2583	.5393
7.05	.2078	.5140	-.0267	.2693	.4846	7.07	.2227	.5767	-.1132	.2920	.5449
8.07	.2421	.5148	-.0243	.3120	.4757	8.09	.2456	.5871	-.1134	.3258	.5467
9.07	.2631	.5302	-.0260	.3434	.4821	9.11	.2664	.6003	-.1114	.3580	.5505
10.08	.2895	.5544	-.0315	.3820	.4951	10.13	.2925	.6021	-.1087	.3938	.5413
12.09	.3393	.6098	-.0487	.4595	.5252	12.17	.3399	.6444	-.1077	.4681	.5582
14.10	.3732	.6734	-.0690	.5260	.5622	14.21	.3783	.6890	-.1144	.5358	.5750
16.11	.4156	.7391	-.0912	.6044	.5948	16.23	.4160	.7450	-.1330	.6076	.5990
18.13	.4560	.8027	-.1156	.6832	.6209	18.25	.4467	.7993	-.1573	.6745	.6192
20.13	.5029	.8850	-.1506	.7768	.6578	20.27	.4842	.8760	-.1992	.7577	.6540
22.14	.5409	.9580	-.2010	.8620	.6936	22.27	.5163	.9557	-.2393	.8400	.6887
23.13	.5551	.9875	-.2162	.8984	.6900	23.28	.5231	.9911	-.2525	.8722	.7037
M=0.50			R=2.86x10⁶			M=0.60			R=3.20x10⁶		
-1.96	-.1029	.5850	.1181	-.1228	.5812	-1.91	-.0474	.6211	.1025	-.0681	.6192
-0.98	-.0646	.5767	.0665	-.0745	.5755	-0.94	-.0170	.6255	.0608	-.0273	.6251
-0.01	-.0260	.5658	.0094	-.0261	.5658	0.02	-.0072	.6387	.0126	-.0070	.6387
0.99	.0225	.5688	-.0297	.0323	.5683	0.96	-.0111	.6506	-.0240	-.0002	.6507
1.95	.0560	.5812	-.0945	.0758	.5790	1.89	.0004	.6283	-.0806	.0211	.6280
2.93	.0854	.5902	-.1378	.1155	.5850	2.87	.0210	.6302	-.1208	.0526	.6283
3.93	.1183	.6037	-.1702	.1594	.5942	3.83	.0505	.6390	-.1697	.0931	.6342
4.94	.1451	.6212	-.1900	.1981	.6064	4.84	.0829	.6500	-.2004	.1374	.6407
5.95	.1714	.6331	-.2022	.2361	.6119	5.86	.1265	.6657	-.2240	.1938	.6493
6.98	.1912	.6472	-.2071	.2684	.6192	6.89	.1604	.6824	-.2392	.2411	.6583
8.01	.2117	.6603	-.2012	.3016	.6244	7.92	.1861	.7016	-.2466	.2810	.6693
9.07	.2375	.6709	-.1807	.3403	.6251	8.98	.2058	.7220	-.2364	.3160	.6810
10.10	.2577	.6887	-.1752	.3745	.6328	10.02	.2283	.7396	-.2342	.3535	.6886
12.16	.2932	.7263	-.1680	.4396	.6482						
14.21	.3246	.7716	-.1731	.5041	.6683						
16.26	.3526	.8123	-.1746	.5659	.6811						
18.30	.3876	.8532	-.1852	.6359	.6883						
20.32	.4162	.9169	-.2179	.7087	.7153						
22.35	.4380	1.0019	-.2485	.7861	.7600						
23.39	.4565	1.0370	-.2453	.8307	.7706						

TABLE III.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND $l/d = 1.50$ - Concluded

(c) $r_c/d = 0.10$

M=0.25			R=1.68x10⁶			M=0.40			R=2.55x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.01	-.0970	.1492	.0284	-.1021	.1457	-2.04	-.0937	.1488	.0155	-.0989	.1454
-1.01	-.0553	.1375	.0245	-.0577	.1365	-1.02	-.0529	.1368	.0131	-.0553	.1359
0.01	-.0092	.1405	.0213	-.0092	.1405	0.01	-.0037	.1412	.0093	-.0037	.1412
1.01	.0257	.1540	.0209	.0284	.1535	1.03	.0329	.1530	.0075	.0357	.1524
2.02	.0607	.1621	.0211	.0664	.1599	2.04	.0694	.1605	.0065	.0751	.1579
3.03	.0952	.1737	.0199	.1043	.1685	3.06	.0976	.1727	.0069	.1067	.1673
4.04	.1260	.1820	.0192	.1385	.1726	4.08	.1318	.1826	.0053	.1445	.1727
5.05	.1532	.1910	.0209	.1694	.1768	5.10	.1618	.1897	.0070	.1781	.1745
6.06	.1842	.1994	.0214	.2043	.1789	6.12	.1898	.1997	.0070	.2100	.1784
7.06	.2157	.2045	.0204	.2392	.1764	7.14	.2223	.2093	.0060	.2466	.1801
8.07	.2493	.2200	.0190	.2777	.1828	8.16	.2530	.2201	.0055	.2816	.1820
9.08	.2798	.2319	.0180	.3129	.1848	9.18	.2802	.2334	.0060	.3138	.1857
10.08	.3102	.2450	.0175	.3483	.1869	10.20	.3151	.3308	-.0049	.3687	.2698
12.10	.3702	.2750	.0183	.4196	.1913	12.23	.3697	.4074	-.0210	.4476	.3199
14.12	.4252	.4106	-.0008	.5126	.2945	14.25	.4154	.4947	-.0511	.5244	.3772
16.13	.4757	.4941	-.0267	.5943	.3424	16.27	.4522	.5786	-.0824	.5962	.4287
18.14	.5246	.5943	-.0603	.6835	.4015	18.28	.4873	.6490	-.1199	.6663	.4634
20.15	.5657	.6907	-.1029	.7690	.4535	20.27	.5207	.7229	-.1703	.7389	.4977
22.15	.6093	.7893	-.1557	.8619	.5013	22.27	.5458	.8167	-.2232	.8146	.5490
23.15	.6255	.8292	-.1783	.9011	.5165	23.28	.5557	.8588	-.2360	.8499	.5693
M=0.50			R=2.96x10⁶			M=0.60			R=3.30x10⁶		
-2.07	-.0916	.1622	.0083	-.0974	.1588	-2.08	-.0929	.3375	.0206	-.1050	.3339
-1.04	-.0553	.1508	.0070	-.0580	.1498	-1.05	-.0629	.3292	.0143	-.0689	.3279
0.00	-.0027	.1470	.0033	-.0027	.1470	0.04	.0474	.3290	-.0073	.0476	.3290
1.04	.0362	.1604	.0031	.0391	.1597	1.07	.0784	.3435	-.0121	.0848	.3419
2.06	.0703	.1764	.0019	.0766	.1738	2.10	.1098	.3535	-.0183	.1227	.3493
3.10	.1049	.1923	.0026	.1151	.1863	3.13	.1386	.3646	-.0234	.1583	.3565
4.13	.1330	.2067	.0033	.1476	.1966	4.16	.1661	.3787	-.0291	.1932	.3657
5.15	.1633	.2171	.0031	.1821	.2015	5.20	.1951	.3903	-.0360	.2297	.3710
6.19	.1925	.2340	.0027	.2166	.2118	6.23	.2228	.4030	-.0433	.2652	.3764
7.21	.2246	.2585	.0007	.2552	.2283	7.25	.2505	.4205	-.0502	.3016	.3855
8.24	.2568	.2909	-.0047	.2958	.2511	8.28	.2810	.4377	-.0582	.3411	.3926
9.26	.2907	.3260	-.0144	.3394	.2750	9.31	.3081	.4653	-.0656	.3793	.4094
10.29	.3224	.3622	-.0251	.3819	.2988	10.31	.2986	.4665	-.0650	.3773	.4056
12.32	.3763	.4381	-.0506	.4611	.3477	12.37	.3506	.5261	-.0832	.4552	.4388
14.34	.4141	.5114	-.0761	.5279	.3929	14.42	.3952	.5909	-.1029	.5300	.4739
16.36	.4520	.5954	-.1134	.6014	.4440	16.47	.4379	.6523	-.1224	.6048	.5014
18.39	.5008	.7001	-.1597	.6961	.5063	18.49	.4843	.7111	-.1605	.6848	.5208
20.37	.5199	.7710	-.2129	.7558	.5418	20.48	.5075	.7777	-.2151	.7475	.5509
22.37	.5217	.8349	-.2447	.8002	.5735	22.50	.5207	.8400	-.2369	.8026	.5768
23.38	.5231	.8675	-.2516	.8244	.5887	23.52	.5199	.8737	-.2450	.8254	.5936
M=0.70			R=3.55x10⁶								
-2.02	-.0978	.4807	.0681	-.1146	.4770						
-1.02	-.0672	.4713	.0440	-.0756	.4700						
0.01	-.0199	.4569	.0143	-.0198	.4569						
1.03	.0394	.4731	-.0188	.0479	.4723						
2.04	.0724	.4834	-.0422	.0896	.4805						
3.04	.1042	.4917	-.0734	.1302	.4855						
4.07	.1340	.5095	-.0830	.1699	.4987						
5.09	.1625	.5221	-.0989	.2082	.5056						
6.11	.1880	.5402	-.1138	.2444	.5171						
7.14	.2113	.5579	-.1231	.2790	.5273						
8.18	.2345	.5723	-.1273	.3135	.5331						
9.22	.2590	.5927	-.1313	.3507	.5435						
10.27	.2830	.6203	-.1365	.3891	.5599						

TABLE IV.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND $l/d = 2.00$

(a) $r_c/d = 0.00$

M=0.25			R=1.63x10⁶			M=0.40			R=2.41x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-1.99	-.0451	.8044	.1230	-.0730	.8023	-1.97	-.0212	.8116	.1049	-.0491	.8104
-0.99	-.0091	.7991	.0301	-.0229	.7988	-1.00	-.0009	.8089	.0269	-.0150	.8088
-0.01	.0273	.8043	-.0697	.0272	.8043	-0.03	.0108	.8129	-.0460	.0104	.8129
0.98	.0571	.8159	-.1458	.0711	.8148	0.95	.0271	.8197	-.1120	.0407	.8192
1.98	.0880	.8403	-.2103	.1169	.8368	1.94	.0595	.8335	-.1848	.0877	.8310
2.97	.1247	.8665	-.2648	.1694	.8588	2.93	.0884	.8507	-.2363	.1318	.8451
3.98	.1510	.8937	-.2905	.2126	.8810	3.93	.1187	.8810	-.2828	.1788	.8708
4.99	.1768	.9314	-.3081	.2571	.9125	4.95	.1538	.9112	-.3143	.2318	.8945
5.99	.1960	.9630	-.3082	.2954	.9372	5.96	.1768	.9496	-.3278	.2744	.9261
7.01	.2100	.9927	-.3050	.3295	.9597	6.99	.1964	.9721	-.3294	.3132	.9410
8.01	.2207	1.0135	-.3002	.3597	.9728	8.01	.2088	1.0057	-.3254	.3469	.9668
9.03	.2391	1.0389	-.2974	.3992	.9885	9.03	.2191	1.0281	-.3169	.3778	.9810
10.03	.2480	1.0706	-.2865	.4307	1.0110	10.06	.2307	1.0518	-.3065	.4109	.9953
12.05	.2767	1.1113	-.2707	.5026	1.0290	12.10	.2527	1.1092	-.2956	.4796	1.0316
14.07	.3069	1.1709	-.2699	.5824	1.0612	14.15	.2788	1.1559	-.2830	.5529	1.0526
16.09	.3398	1.2165	-.2648	.6637	1.0746	16.20	.3084	1.1997	-.2793	.6309	1.0661
18.12	.3889	1.2679	-.2631	.7639	1.0840	18.25	.3476	1.2472	-.2769	.7207	1.0756
20.14	.4396	1.3458	-.2831	.8761	1.1121	20.29	.3826	1.2944	-.2944	.8078	1.0814
22.17	.4909	1.4164	-.2992	.9891	1.1265	22.33	.4157	1.3711	-.3179	.9054	1.1104
23.16	.5053	1.4441	-.3210	1.0326	1.1290	23.36	.4326	1.4122	-.3211	.9571	1.1249

M=0.50			R=2.91x10⁶		
-1.95	.0051	.8564	.0749	-.0240	.8561
-0.99	.0028	.8733	.0227	-.0123	.8732
-0.03	-.0024	.8721	-.0272	-.0029	.8721
0.94	-.0034	.8814	-.0827	.0111	.8814
1.91	.0129	.8681	-.1394	.0418	.8672
2.89	.0468	.8644	-.2084	.0903	.8609
3.88	.0896	.8862	-.2697	.1494	.8781
4.90	.1288	.9097	-.3107	.2060	.8954
5.93	.1742	.9412	-.3363	.2705	.9182
6.95	.1791	.9775	-.3418	.2961	.9486

(b) $r_c/d = 0.05$

M=0.25			R=1.65x10⁶			M=0.40			R=2.51x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.02	-.0422	.4632	.0029	-.0585	.4614	-2.03	-.0845	.5573	.0658	-.1041	.5539
-1.01	-.0535	.4502	.0160	-.0614	.4492	-1.01	-.0558	.5479	.0451	-.0655	.5468
0.00	.0010	.4485	.0013	.0010	.4485	-0.01	-.0009	.5378	-.0082	-.0010	.5378
1.02	.0400	.4323	.0021	.0477	.4315	1.00	.0495	.5488	-.0530	.0591	.5478
2.02	.0807	.4202	.0108	.0954	.4171	2.01	.0800	.5632	-.0772	.0998	.5601
3.04	.1125	.4184	.0224	.1345	.4118	3.03	.1054	.5671	-.0833	.1353	.5607
4.04	.1365	.4403	.0204	.1672	.4296	4.05	.1298	.5721	-.0831	.1699	.5615
5.06	.1692	.4618	.0172	.2092	.4451	5.07	.1505	.5798	-.0817	.2011	.5642
6.06	.1919	.4881	.0150	.2423	.4651	6.09	.1776	.5891	-.0749	.2391	.5670
7.07	.2248	.5051	.0139	.2853	.4736	7.12	.2043	.5939	-.0606	.2763	.5640
8.08	.2436	.5239	.0147	.3148	.4845	8.16	.2297	.5938	-.0458	.3117	.5552
9.09	.2750	.5458	.0110	.3577	.4955	9.19	.2591	.6033	-.0352	.3522	.5542
10.10	.3094	.5742	.0055	.4053	.5110	10.21	.2854	.6252	-.0325	.3917	.5647
12.12	.3568	.6407	-.0023	.4833	.5515	12.25	.3314	.6790	-.0349	.4680	.5932
14.13	.4087	.7111	-.0194	.5699	.5898	14.28	.3751	.7471	-.0532	.5478	.6315
16.15	.4621	.7950	-.0467	.6650	.6351	16.32	.4189	.8165	-.0769	.6314	.6659
18.17	.5147	.8854	-.0796	.7651	.6807	18.36	.4721	.8988	-.1085	.7312	.7044
20.18	.5712	.9792	-.1254	.8739	.7221	20.38	.5269	.9780	-.1671	.8345	.7333
22.19	.6368	1.0694	-.1894	.9935	.7497	22.42	.5849	1.0534	-.2117	.9425	.7507
23.20	.6626	1.1072	-.2171	1.0452	.7567	23.45	.6149	1.1134	-.2259	1.0072	.7767

M=0.50			R=2.94x10⁶			M=0.60			R=3.29x10⁶		
-2.03	-.0841	.6043	.0604	-.1054	.6009	-1.96	-.0898	.6699	.1416	-.1126	.6664
-1.04	-.0492	.5907	.0186	-.0599	.5897	-0.98	-.0565	.6530	.0797	-.0677	.6519
-0.03	.0031	.5861	-.0312	.0028	.5861	-0.03	.0009	.6451	-.0247	.0006	.6451
0.98	.0468	.5963	-.0789	.0570	.5954	0.92	.0467	.6529	-.1277	.0572	.6520
1.98	.0791	.6103	-.1152	.1002	.6072	1.91	.0790	.6679	-.1769	.1013	.6649
3.00	.1084	.6283	-.1328	.1412	.6217	2.92	.1105	.6844	-.2066	.1453	.6779
4.03	.1407	.6402	-.1447	.1854	.6287	3.96	.1320	.6939	-.2045	.1796	.6831
5.05	.1538	.6544	-.1430	.2108	.6384	5.00	.1544	.7084	-.2083	.2155	.6922
6.08	.1779	.6707	-.1412	.2479	.6481	6.04	.1711	.7213	-.2031	.2461	.6993
7.13	.1943	.6766	-.1254	.2768	.6473						
8.16	.2131	.6942	-.1196	.3094	.6570						
9.19	.2403	.7115	-.1172	.3508	.6640						
10.23	.2602	.7341	-.1096	.3865	.6762						
12.30	.3025	.7887	-.1064	.4636	.7062						
14.37	.3474	.8328	-.1039	.5432	.7205						
16.44	.3984	.9026	-.1197	.6375	.7529						
18.50	.4535	.9746	-.1510	.7393	.7803						
20.55	.5131	1.0521	-.1975	.8498	.8051						
22.60	.5688	1.1160	-.2369	.9540	.8117						
23.65	.5940	1.1656	-.2435	1.0116	.8293						

TABLE IV.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP ON AND $l/d = 2.00$ - Concluded

(c) $r_c/d = 0.10$

$M = 0.25$			$R = 1.66 \times 10^6$		
α	C_L	C_D	C_m	C_N	C_A
-2.02	-.0809	.1744	-.0017	-.0869	.1714
-1.01	-.0473	.1624	.0005	-.0502	.1616
0.00	.0046	.1562	-.0035	.0046	.1562
1.01	.0432	.1678	-.0055	.0462	.1670
2.02	.0817	.1808	-.0037	.0880	.1778
3.03	.1204	.1929	-.0028	.1304	.1862
4.04	.1508	.2014	.0047	.1646	.1903
5.05	.1761	.2128	.0107	.1941	.1965
6.06	.2107	.2217	.0138	.2329	.1983
7.07	.2403	.2358	.0193	.2675	.2044
8.08	.2744	.2495	.0239	.3068	.2084
9.09	.3081	.2645	.0267	.3460	.2125
10.10	.3374	.2801	.0311	.3813	.2166
12.13	.4015	.4081	.0284	.4783	.3146
14.14	.4631	.5115	.0110	.5741	.3829
16.15	.5159	.6071	-.0169	.6644	.4396
18.17	.5746	.7066	-.0655	.7662	.4922
20.18	.6341	.8060	-.1178	.8732	.5378
22.20	.6877	.9037	-.1560	.9782	.5769
23.20	.7196	.9488	-.1799	1.0352	.5886

$M = 0.40$			$R = 2.50 \times 10^6$		
α	C_L	C_D	C_m	C_N	C_A
-2.05	-.0794	.1685	-.0008	-.0853	.1656
-1.03	-.0479	.1577	.0028	-.0507	.1568
0.00	.0075	.1518	-.0033	.0075	.1518
1.03	.0464	.1638	-.0040	.0493	.1630
2.05	.0800	.1761	.0005	.0862	.1731
3.07	.1153	.1859	.0034	.1251	.1794
4.10	.1451	.1949	.0098	.1586	.1840
5.13	.1765	.2071	.0158	.1943	.1905
6.15	.2120	.2535	.0234	.2380	.2293
7.17	.2408	.2774	.0277	.2735	.2451
8.20	.2691	.3103	.0296	.3106	.2687
10.24	.3281	.3898	.0269	.3922	.3253
12.28	.3802	.4736	.0137	.4722	.3819
14.32	.4278	.5583	-.0116	.5526	.4352
16.35	.4782	.6515	-.0543	.6423	.4906
18.37	.5405	.7588	-.1051	.7521	.5498
20.40	.5960	.8593	-.1593	.8581	.5977
22.44	.6251	.9299	-.1824	.9328	.6209
23.45	.6470	.9671	-.1973	.9785	.6297

$M = 0.50$			$R = 2.93 \times 10^6$		
-2.07	-.0829	.1758	-.0011	-.0891	.1727
-1.05	-.0519	.1626	.0029	-.0549	.1616
0.00	.0002	.1557	-.0010	.0002	.1557
1.04	.0450	.1661	-.0017	.0480	.1653
2.07	.0797	.1856	.0034	.0863	.1826
3.11	.1133	.1909	.0080	.1235	.1845
4.15	.1450	.2078	.0135	.1596	.1968
5.19	.1726	.2203	.0193	.1918	.2038
6.23	.2099	.2741	.0249	.2384	.2497
7.26	.2393	.2999	.0272	.2753	.2673
8.30	.2679	.3344	.0260	.3134	.2922
9.33	.3003	.3763	.0221	.3573	.3226
10.36	.3264	.4160	.0161	.3959	.3505
12.41	.3830	.5079	-.0079	.4833	.4137
14.44	.4353	.6074	-.0498	.5730	.4796
16.49	.4801	.6950	-.0931	.6577	.5301
18.52	.5416	.8075	-.1558	.7701	.5937
20.57	.5903	.8902	-.1948	.8655	.6260
22.62	.6284	.9640	-.2163	.9509	.6481
23.64	.6408	1.0031	-.2324	.9892	.6619

$M = 0.60$			$R = 3.42 \times 10^6$		
-2.09	-.0821	.3478	.0127	-.0947	.3446
-1.05	-.0520	.3392	.0117	-.0582	.3381
0.00	.0002	.3338	-.0002	.0002	.3338
1.06	.0486	.3418	-.0095	.0549	.3408
2.09	.0776	.3608	-.0106	.0907	.3578
3.14	.1104	.3696	-.0109	.1304	.3630
4.18	.1370	.3811	-.0119	.1644	.3701
5.21	.1663	.4019	-.0142	.2021	.3851
6.26	.1944	.4199	-.0149	.2390	.3962
7.30	.2231	.4314	-.0150	.2761	.3996
8.34	.2511	.4519	-.0161	.3139	.4107
9.39	.2819	.4859	-.0207	.3574	.4334
10.42	.3083	.5146	-.0232	.3963	.4503
12.53	.3923	.5374	-.0380	.4996	.4395
14.48	.4036	.6549	-.1319	.5546	.5332
16.66	.4695	.7408	-.0870	.6622	.5751
18.73	.5368	.8414	-.1404	.7786	.6244
20.78	.5895	.9074	-.1830	.8731	.6393
22.87	.6259	.9907	-.1997	.9617	.6696

$M = 0.70$			$R = 3.67 \times 10^6$		
-2.07	-.0826	.5093	.0502	-.1009	.5060
-1.04	-.0500	.5002	.0304	-.0591	.4992
0.00	.0056	.4894	-.0038	.0056	.4894
1.04	.0479	.4959	-.0296	.0569	.4949
2.07	.0803	.5164	-.0499	.0989	.5132
3.09	.1091	.5285	-.0680	.1374	.5218
4.12	.1352	.5465	-.0827	.1742	.5354
5.17	.1616	.5658	-.0945	.2119	.5489
6.21	.1872	.5783	-.0999	.2487	.5547

TABLE V.- EFFECT OF TRANSITION ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH $l/d = 1.00$ AND $r_f/d = 1.07$

(a) Transition strip on

M=0.25			R = 1.66 x 10⁶			M=0.40			R=2.55 x 10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.00	.0341	.9557	.0041	.0007	.9563	-2.00	.0349	.9844	.0052	.0005	.9850
-1.00	.0167	.9681	.0011	-.0002	.9683	-1.00	.0191	.9897	.0025	.0018	.9899
0.00	-.0051	.9663	-.0019	-.0051	.9663	0.00	.0013	.9834	-.0008	.0013	.9834
1.00	-.0226	.9664	-.0059	-.0057	.9667	1.00	-.0125	.9769	-.0043	.0045	.9770
2.00	-.0394	.9639	-.0067	-.0058	.9647	2.00	-.0299	.9737	-.0073	.0041	.9741
3.00	-.0562	.9566	-.0108	-.0060	.9582	2.99	-.0506	.9702	-.0101	.0001	.9715
4.00	-.0724	.9490	-.0142	-.0060	.9518	3.99	-.0691	.9665	-.0114	-.0017	.9690
5.00	-.0942	.9567	-.0174	-.0104	.9613	4.99	-.0878	.9622	-.0144	-.0038	.9662
5.99	-.1143	.9505	-.0189	-.0145	.9572	5.99	-.1081	.9574	-.0169	-.0076	.9635
6.98	-.1523	.9438	-.0206	-.0365	.9553	6.98	-.1334	.9517	-.0183	-.0167	.9608
7.98	-.1779	.9378	-.0285	-.0460	.9534	7.97	-.1564	.9418	-.0218	-.0243	.9544
8.98	-.2021	.9291	-.0341	-.0546	.9492	8.97	-.1877	.9377	-.0252	-.0392	.9555
9.98	-.2126	.9176	-.0436	-.0504	.9405	9.97	-.2068	.9272	-.0302	-.0432	.9490
11.98	-.2127	.9102	-.0627	-.0192	.9346	11.96	-.2228	.9175	-.0462	-.0279	.9438
13.99	-.1581	.8868	-.0916	.0610	.8987	13.96	-.2091	.8955	-.0668	.0131	.9194
16.01	-.0236	.8483	-.1377	.2113	.8219	15.99	-.1576	.8901	-.0950	.0937	.8991
18.03	.0570	.8746	-.1593	.3249	.8140	18.02	-.0549	.8504	-.1303	.2109	.8257
20.04	.1160	.9008	-.1719	.4177	.8065	20.07	.0191	.8728	-.1486	.3174	.8132
22.05	.1654	.9291	-.1826	.5021	.7990	22.10	.0751	.8906	-.1614	.4047	.7969
23.07	.1860	.9412	-.1882	.5399	.7930	23.11	.0976	.8971	-.1666	.4419	.7868

(b) Transition strip off

M=0.25			R=1.65 x 10⁶			M=0.40			R=2.46 x 10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.00	.0301	.9856	.0019	-.0043	.9861	-2.00	.0355	.9991	.0059	.0006	.9997
-1.00	.0120	.9795	-.0003	-.0051	.9796	-1.00	.0175	1.0044	.0023	.0000	1.0045
0.00	-.0054	.9730	-.0027	-.0054	.9730	0.00	-.0005	1.0134	-.0004	-.0005	1.0134
1.00	-.0274	.9823	-.0066	-.0103	.9827	1.00	-.0186	1.0144	-.0031	-.0009	1.0145
2.00	-.0446	.9751	-.0090	-.0106	.9761	2.00	-.0364	1.0113	-.0055	-.0011	1.0120
3.00	-.0620	.9746	-.0131	-.0109	.9765	2.99	-.0540	1.0038	-.0096	-.0015	1.0052
4.00	-.0797	.9828	-.0156	-.0109	.9860	3.99	-.0718	1.0039	-.0120	-.0017	1.0065
4.99	-.1046	.9742	-.0161	-.0195	.9796	4.99	-.0908	.9958	-.0146	-.0039	.9999
5.99	-.1308	.9762	-.0200	-.0282	.9845	5.99	-.1153	.9905	-.0171	-.0113	.9971
6.98	-.1598	.9612	-.0244	-.0418	.9735	6.98	-.1504	.9834	-.0167	-.0298	.9944
7.98	-.1880	.9431	-.0306	-.0553	.9601	7.97	-.1692	.9777	-.0211	-.0320	.9918
8.98	-.2116	.9554	-.0379	-.0599	.9767	8.97	-.1934	.9707	-.0256	-.0396	.9890
9.98	-.2111	.9318	-.0479	-.0464	.9543	9.96	-.2137	.9638	-.0310	-.0438	.9863
11.98	-.1983	.9250	-.0702	-.0020	.9461	11.96	-.2326	.9534	-.0462	-.0300	.9809
13.99	-.1554	.9112	-.0961	.0695	.9218	13.96	-.2223	.9501	-.0672	.0135	.9756
16.01	-.0328	.8646	-.1367	.2070	.8401	15.99	-.1793	.9260	-.0919	.0827	.9396
18.02	.0351	.8987	-.1587	.3114	.8437	18.02	-.0665	.8798	-.1275	.2090	.8572
20.04	.0841	.9232	-.1701	.3954	.8385	20.06	-.0051	.9054	-.1463	.3058	.8522
22.05	.1424	.9493	-.1845	.4884	.8264	22.09	.0463	.9289	-.1602	.3922	.8433
23.05	.1648	.9567	-.1893	.5262	.8158	23.11	.0755	.9422	-.1673	.4392	.8370

TABLE VI.- EFFECT OF TRANSITION ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE BOATTAILED MODEL WITH $r_f/d = 1.07$

(a) Transition strip on

M = 0.25			R = 1.67 x 10⁶			M = 0.40			R = 2.53 x 10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.00	.0356	1.0295	.0020	-.0003	1.0301	-2.00	.0401	1.0385	.0044	.0039	1.0393
-1.00	.0171	1.0261	.0013	-.0008	1.0262	-1.00	.0195	1.0298	.0019	.0015	1.0299
0.00	-.0102	1.0364	-.0013	-.0102	1.0364	0.00	-.0007	1.0361	.0001	-.0007	1.0361
1.00	-.0285	1.0415	-.0021	-.0103	1.0418	1.00	-.0230	1.0380	-.0033	-.0049	1.0382
2.00	-.0477	1.0510	-.0078	-.0110	1.0521	2.00	-.0377	1.0361	-.0063	-.0015	1.0368
3.00	-.0748	1.0458	-.0080	-.0200	1.0483	2.99	-.0647	1.0294	-.0074	-.0109	1.0314
4.00	-.0919	1.0266	-.0105	-.0201	1.0305	3.99	-.0828	1.0265	-.0094	-.0112	1.0298
5.00	-.1107	1.0348	-.0131	-.0201	1.0405	4.99	-.1013	1.0271	-.0125	-.0116	1.0320
5.99	-.1332	1.0331	-.0153	-.0247	1.0414	5.99	-.1189	1.0237	-.0146	-.0115	1.0305
6.99	-.1500	1.0223	-.0180	-.0245	1.0330	6.99	-.1363	1.0160	-.0166	-.0117	1.0251
7.99	-.1596	1.0263	-.0212	-.0154	1.0385	7.99	-.1545	1.0157	-.0190	-.0118	1.0273
8.99	-.1822	1.0282	-.0203	-.0193	1.0441	8.99	-.1703	1.0115	-.0212	-.0101	1.0257
9.99	-.1996	1.0260	-.0214	-.0186	1.0450	9.98	-.1832	1.0039	-.0243	-.0064	1.0204
11.99	-.2221	1.0229	-.0294	-.0048	1.0467	11.98	-.2145	.9983	-.0281	-.0026	1.0211
13.99	-.2462	1.0098	-.0356	.0052	1.0393	13.98	-.2411	.9890	-.0322	.0049	1.0179
15.99	-.2718	1.0052	-.0403	.0156	1.0412	15.98	-.2656	.9798	-.0372	.0144	1.0150
17.99	-.2927	.9872	-.0443	.0265	1.0293	17.99	-.2869	.9669	-.0431	.0257	1.0082
20.00	-.3091	.9702	-.0528	.0413	1.0174	19.99	-.3068	.9418	-.0473	.0337	.9900
22.00	-.3295	.9566	-.0571	.0529	1.0103	22.00	-.3250	.9250	-.0523	.0452	.9793
22.99	-.3636	.9294	-.0504	.0283	.9976	22.99	-.3306	.9096	-.0552	.0510	.9665

(b) Transition strip off

M = 0.25			R = 1.66 x 10⁶			M = 0.40			R = 2.52 x 10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.00	.0457	1.0478	.0020	.0091	1.0488	-2.00	.0426	1.0558	.0029	.0058	1.0567
-1.00	.0271	1.0632	-.0011	.0085	1.0635	-1.00	.0275	1.0546	.0007	.0091	1.0549
0.00	.0083	1.0690	-.0010	.0083	1.0690	0.00	.0050	1.0572	-.0014	.0050	1.0572
1.00	-.0202	1.0789	-.0061	-.0014	1.0791	1.00	-.0194	1.0554	-.0031	-.0010	1.0555
2.00	-.0390	1.0698	-.0077	-.0017	1.0705	2.00	-.0362	1.0534	-.0063	.0006	1.0541
3.00	-.0488	1.0657	-.0124	.0071	1.0668	2.99	-.0606	1.0585	-.0083	-.0053	1.0603
4.00	-.0765	1.0649	-.0135	-.0020	1.0676	3.99	-.0754	1.0559	-.0106	-.0017	1.0585
5.00	-.1037	1.0588	-.0146	-.0110	1.0638	4.99	-.0943	1.0527	-.0150	-.0023	1.0569
6.00	-.1132	1.0587	-.0178	-.0019	1.0647	5.99	-.1161	1.0490	-.0159	-.0060	1.0554
6.99	-.1359	1.0568	-.0193	-.0063	1.0654	6.99	-.1335	1.0531	-.0181	-.0043	1.0615
7.99	-.1547	1.0598	-.0212	-.0059	1.0710	7.99	-.1504	1.0532	-.0207	-.0025	1.0639
8.99	-.1725	1.0533	-.0238	-.0058	1.0674	8.99	-.1684	1.0488	-.0212	-.0024	1.0622
9.99	-.1862	1.0518	-.0260	-.0009	1.0682	9.99	-.1865	1.0442	-.0240	-.0026	1.0608
11.99	-.2179	1.0476	-.0301	.0045	1.0700	11.98	-.2202	1.0344	-.0281	-.0007	1.0576
13.99	-.2437	1.0391	-.0347	.0147	1.0672	13.98	-.2496	1.0245	-.0319	.0053	1.0545
15.99	-.2703	1.0347	-.0394	.0252	1.0692	15.99	-.2700	1.0162	-.0383	.0203	1.0513
18.00	-.2940	1.0210	-.0443	.0359	1.0619	17.99	-.2956	1.0021	-.0426	.0284	1.0444
20.00	-.3044	1.0116	-.0525	.0600	1.0547	19.99	-.3130	.9777	-.0479	.0401	1.0258
22.00	-.3253	.9833	-.0565	.0668	1.0336	22.00	-.3308	.9570	-.0536	.0518	1.0112
23.00	-.3281	.9696	-.0594	.0769	1.0207	23.00	-.3383	.9449	-.0559	.0578	1.0020

TABLE VII.- LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH A COMBINATION BOATTAIL-CYLINDER AFTERBODY

(a) l = 13.61 inches

M=0.25			R=1.77x10⁶			M=0.40			R=2.69x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.00	.0485	1.0056	.0035	.0134	1.0067	-2.00	.0443	1.0453	.0060	.0078	1.0462
-1.00	.0305	1.0163	.0012	.0128	1.0166	-1.00	.0294	1.0403	.0027	.0112	1.0406
0.00	.0077	1.0361	-.0017	.0077	1.0361	0.00	.0070	1.0508	.0002	.0070	1.0508
1.00	-.0149	1.0229	-.0030	.0029	1.0230	1.00	-.0138	1.0490	-.0034	.0045	1.0490
2.00	-.0290	1.0281	-.0081	.0069	1.0285	2.00	-.0326	1.0471	-.0072	.0039	1.0476
3.00	-.0470	1.0236	-.0114	.0067	1.0247	2.99	-.0530	1.0485	-.0098	.0018	1.0499
4.00	-.0655	1.0281	-.0147	.0064	1.0302	3.99	-.0721	1.0535	-.0129	.0014	1.0560
5.00	-.0888	1.0365	-.0170	.0018	1.0403	4.99	-.0943	1.0502	-.0151	-.0026	1.0544
5.99	-.1108	1.0305	-.0193	-.0027	1.0365	5.99	-.1107	1.0470	-.0177	-.0008	1.0529
6.99	-.1298	1.0386	-.0211	-.0024	1.0467	6.99	-.1349	1.0465	-.0187	-.0065	1.0551
7.99	-.1526	1.0411	-.0210	-.0064	1.0522	7.99	-.1506	1.0386	-.0206	-.0047	1.0494
8.99	-.1699	1.0345	-.0236	-.0061	1.0483	8.99	-.1783	1.0485	-.0219	-.0123	1.0635
9.99	-.1883	1.0369	-.0239	-.0055	1.0539	9.98	-.1923	1.0444	-.0233	-.0084	1.0619
11.99	-.2249	1.0363	-.0286	-.0047	1.0604	11.98	-.2242	1.0348	-.0276	-.0045	1.0588
13.99	-.2513	1.0322	-.0315	.0057	1.0624	13.98	-.2538	1.0328	-.0322	.0032	1.0635
15.99	-.2704	1.0344	-.0377	.0250	1.0689	15.98	-.2773	1.0155	-.0366	.0130	1.0526
18.00	-.2902	1.0219	-.0452	.0398	1.0616	17.99	-.2972	1.0069	-.0431	.0283	1.0495
20.00	-.3047	1.0112	-.0524	.0596	1.0544	19.99	-.3157	.9904	-.0489	.0419	1.0386
22.00	-.3212	.9948	-.0602	.0749	1.0427	22.00	-.3306	.9666	-.0551	.0556	1.0200
23.00	-.3208	.9725	-.0655	.0847	1.0205	22.99	-.3381	.9588	-.0586	.0633	1.0147

(b) l = 17.35 inches

M=0.25			R=1.76x10⁶			M=0.40			R=2.64x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.00	.0344	.9969	.0002	-.0004	.9975	-1.99	.0355	1.0026	.0083	.0007	1.0032
-1.00	.0170	.9983	.0020	-.0004	.9985	-1.00	.0175	.9977	.0046	.0001	.9979
0.00	-.0011	.9945	-.0028	-.0011	.9945	0.00	-.0007	1.0000	-.0007	-.0007	1.0000
1.00	-.0190	1.0045	-.0052	-.0015	1.0046	1.00	-.0149	.9984	-.0046	.0025	.9986
2.00	-.0415	1.0000	-.0107	-.0066	1.0008	1.99	-.0327	.9964	-.0089	.0019	.9969
3.00	-.0595	.9998	-.0147	-.0071	1.0015	2.99	-.0523	.9939	-.0125	-.0004	.9952
3.99	-.0811	.9946	-.0178	-.0117	.9978	3.99	-.0706	.9988	-.0169	-.0009	1.0013
4.99	-.1003	1.0124	-.0203	-.0118	1.0173	4.99	-.0903	.9994	-.0198	-.0031	1.0035
5.99	-.1273	1.0149	-.0197	-.0207	1.0227	5.99	-.1119	.9996	-.0216	-.0070	1.0058
6.99	-.1502	1.0222	-.0214	-.0247	1.0329	6.98	-.1330	.9992	-.0231	-.0106	1.0080
7.99	-.1728	1.0243	-.0221	-.0287	1.0384	7.97	-.1580	1.0134	-.0235	-.0160	1.0255
8.99	-.1966	1.0305	-.0244	-.0332	1.0485	8.97	-.1766	1.0164	-.0243	-.0159	1.0315
9.99	-.2107	1.0332	-.0266	-.0283	1.0541	9.97	-.1976	1.0110	-.0258	-.0196	1.0299
11.99	-.2429	1.0327	-.0332	-.0231	1.0607	11.98	-.2291	1.0128	-.0294	-.0139	1.0383
13.99	-.2630	1.0198	-.0397	-.0087	1.0532	13.98	-.2539	1.0075	-.0358	-.0030	1.0390
15.99	-.2811	1.0170	-.0507	.0100	1.0551	15.98	-.2719	.9919	-.0438	.0117	1.0285
17.99	-.2919	1.0069	-.0621	.0334	1.0479	17.98	-.2926	.9751	-.0513	.0227	1.0178
19.99	-.2817	.9899	-.0821	.0737	1.0266	19.99	-.2935	.9529	-.0636	.0500	.9958
21.99	-.2847	.9743	-.1022	.1008	1.0100	21.98	-.3094	.9375	-.0781	.0640	.9852
23.00	-.2762	.9762	-.1184	.1272	1.0065	22.99	-.2982	.9380	-.0953	.0919	.9800

TABLE VIII.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP OFF AND $l/d = 1.00$

(a) $r_c/d = 0.05$

M=0.25			R = 1.68 x10⁶		
α	C_L	C_D	C_m	C_N	C_A
-1.99	.0516	.8870	.0340	.0208	.8883
-0.99	.0243	.8879	.0284	.0090	.8882
0.01	-.0065	.8927	.0237	-.0063	.8927
1.00	-.0370	.8855	.0177	-.0215	.8860
2.00	-.0638	.8776	.0102	-.0332	.8793
2.99	-.0972	.8688	.0049	-.0518	.8727
3.98	-.1302	.8523	-.0054	-.0707	.8592
4.98	-.1591	.8306	-.0197	-.0864	.8413
5.97	-.1650	.8103	-.0387	-.0798	.8231
6.97	-.1565	.8030	-.0556	-.0579	.8161
7.97	-.1315	.7872	-.0740	-.0211	.7978
8.98	-.0590	.7570	-.1011	.0599	.7569
10.01	.0829	.7307	-.1243	.2086	.7052
12.03	.1600	.7307	-.1180	.3088	.6814
14.05	.2427	.7342	-.1044	.4136	.6533
16.06	.2606	.7758	-.1143	.4650	.6734
18.07	.2744	.8355	-.1277	.5201	.7092
20.07	.2655	.8974	-.1381	.5574	.7518
22.07	.2354	.9340	-.1432	.5690	.7772
23.07	.2166	.9690	-.1458	.5790	.8066

M=0.40			R=2.55x10⁶		
α	C_L	C_D	C_m	C_N	C_A
-1.95	-.0005	.6319	.0776	-.0220	.6315
-0.94	.0442	.6608	.0525	.0334	.6614
0.07	.0573	.6961	.0533	.0581	.6960
1.05	.0369	.6881	.0401	.0495	.6873
2.04	.0171	.6571	.0235	.0405	.6561
3.02	.0004	.6442	.0000	.0343	.6433
3.99	-.0054	.6500	-.0308	.0398	.6488
4.99	.0041	.6573	-.0573	.0613	.6544
5.98	.0172	.6751	-.0818	.0874	.6696
6.97	.0280	.6877	-.0995	.1113	.6792
7.98	.0383	.7031	-.1112	.1355	.6910
8.98	.0436	.7184	-.1221	.1552	.7028
9.99	.0607	.7289	-.1279	.1862	.7073
12.05	.1612	.7159	-.1226	.3071	.6664
14.11	.2387	.7188	-.1135	.4067	.6389
16.12	.2387	.7651	-.1214	.4417	.6687
18.13	.2293	.8218	-.1318	.4736	.7096
20.12	.1917	.8700	-.1399	.4793	.7510
22.13	.1749	.9122	-.1456	.5056	.7791
23.13	.1521	.9377	-.1443	.5082	.8026

M=0.50			R=2.97x10⁶		
-1.84	.1372	.7638	.0646	.1126	.7678
-0.87	.1120	.7514	.0482	.1006	.7530
0.04	.0239	.6878	.0171	.0244	.6878
1.01	-.0097	.6855	.0050	.0024	.6856
1.98	-.0324	.6701	-.0105	-.0092	.6708
2.94	-.0681	.7033	-.0324	-.0319	.7059
3.93	-.0758	.6999	-.0462	-.0276	.7035
4.92	-.0779	.6971	-.0576	-.0178	.7012
5.94	-.0279	.6945	-.0760	.0441	.6937
6.94	-.0205	.6988	-.0926	.0641	.6962
7.94	.0004	.7055	-.1098	.0979	.6986
8.96	.0315	.7099	-.1210	.1417	.6963
9.98	.0485	.7235	-.1271	.1732	.7042
12.02	.0857	.7495	-.1324	.2399	.7153
14.07	.1248	.7775	-.1362	.3101	.7239
16.11	.1565	.8024	-.1390	.3730	.7275
18.13	.1578	.8449	-.1413	.4129	.7539
20.14	.1290	.8811	-.1428	.4245	.7828
22.16	.1221	.9128	-.1438	.4574	.7993
23.17	.1101	.9337	-.1451	.4686	.8151

TABLE VIII.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP OFF AND l/d = 1.00 - Continued

(b) r_c/d = 0.20

M=0.25			R=1.74x10⁶			M=0.40			R=2.61x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.01	-.0648	.1787	.0038	-.0711	.1763	-2.04	-.0767	.1738	.0094	-.0829	.1710
-1.01	-.0380	.1681	-.0048	-.0410	.1674	-1.01	-.0417	.1613	.0033	-.0445	.1606
0.00	-.0009	.1609	-.0081	-.0009	.1609	0.00	.0000	.1559	-.0007	.0000	.1559
1.01	.0404	.1713	-.0133	.0434	.1706	1.01	.0359	.1654	-.0044	.0388	.1648
2.01	.0770	.1852	-.0175	.0835	.1824	2.02	.0675	.1770	-.0097	.0737	.1745
3.02	.1090	.1935	-.0223	.1190	.1875	3.05	.0973	.1848	-.0142	.1070	.1793
4.02	.1412	.2029	-.0264	.1551	.1925	4.06	.1213	.1944	-.0178	.1348	.1853
5.03	.1640	.2128	-.0302	.1821	.1976	5.07	.1487	.2043	-.0226	.1662	.1904
6.03	.1998	.2249	-.0369	.2223	.2027	6.08	.1761	.2113	-.0271	.1975	.1914
7.03	.2182	.2339	-.0397	.2452	.2054	7.09	.2013	.2231	-.0312	.2273	.1966
8.05	.2485	.2500	-.0464	.2811	.2127	8.11	.2334	.2368	-.0367	.2645	.2015
9.05	.2756	.2621	-.0481	.3134	.2154	9.12	.2566	.2463	-.0404	.2924	.2025
10.06	.3063	.2760	-.0532	.3498	.2183	10.13	.2827	.2596	-.0449	.3240	.2059
12.07	.3496	.3038	-.0603	.4054	.2240	12.15	.3311	.2862	-.0533	.3839	.2101
14.08	.4036	.3405	-.0723	.4743	.2321	14.18	.3727	.3153	-.0608	.4385	.2144
16.08	.4430	.3802	-.0789	.5310	.2426	16.20	.4174	.3570	-.0696	.5004	.2263
18.09	.4856	.4202	-.0892	.5921	.2486	18.22	.4565	.3953	-.0780	.5572	.2328
20.10	.5305	.4655	-.0989	.6582	.2548	20.25	.4924	.4345	-.0860	.6124	.2372
22.12	.5649	.5115	-.1076	.7159	.2612	22.26	.5217	.4728	-.0934	.6619	.2400
23.12	.5861	.5352	-.1130	.7492	.2621	23.27	.5363	.4922	-.0955	.6871	.2403

M=0.50			R=3.06x10⁶			M=0.60			R=3.39x10⁶		
-2.05	-.0697	.1688	.0071	-.0757	.1662	-2.07	-.0724	.1893	.0059	-.0792	.1866
-1.03	-.0364	.1586	.0020	-.0393	.1579	-1.04	-.0422	.1821	.0015	-.0455	.1813
0.00	.0061	.1516	-.0026	.0061	.1516	0.00	-.0039	.1691	-.0016	-.0039	.1691
1.02	.0447	.1636	-.0062	.0476	.1628	1.04	.0465	.1844	-.0053	.0498	.1836
2.05	.0801	.1750	-.0114	.0863	.1720	2.07	.0773	.1999	-.0095	.0844	.1970
3.07	.1068	.1846	-.0150	.1165	.1786	3.10	.1053	.2084	-.0134	.1164	.2024
4.08	.1345	.1934	-.0197	.1480	.1833	4.12	.1319	.2200	-.0172	.1474	.2099
5.11	.1582	.2016	-.0234	.1756	.1867	5.15	.1613	.2377	-.0222	.1819	.2222
6.12	.1869	.2106	-.0277	.2083	.1895	6.17	.1897	.2527	-.0273	.2158	.2308
7.14	.2138	.2219	-.0319	.2397	.1936	7.19	.2172	.2715	-.0326	.2495	.2422
8.16	.2394	.2326	-.0358	.2700	.1962	8.22	.2410	.2862	-.0371	.2794	.2488
9.18	.2657	.2459	-.0401	.3015	.2004	9.25	.2686	.3053	-.0427	.3142	.2581
10.19	.2919	.2588	-.0443	.3331	.2031	10.27	.2942	.3225	-.0476	.3470	.2648
12.23	.3412	.2848	-.0527	.3938	.2060	12.32	.3382	.3644	-.0570	.4082	.2838
14.26	.3857	.3184	-.0606	.4522	.2136	14.36	.3840	.4220	-.0687	.4767	.3136
16.30	.4279	.3562	-.0687	.5107	.2218	16.41	.4210	.4717	-.0792	.5371	.3336
18.33	.4733	.4020	-.0767	.5757	.2328	18.45	.4533	.5116	-.0893	.5919	.3418
20.37	.5071	.4418	-.0859	.6292	.2377	20.50	.4833	.5598	-.1000	.6487	.3550
22.39	.5276	.4729	-.0910	.6679	.2362	22.53	.5093	.6089	-.1116	.7037	.3673
23.41	.5481	.4994	-.0956	.7014	.2405	23.54	.5136	.6166	-.1149	.7172	.3602

M=0.70			R=3.63x10⁶		
-2.09	-.0802	.3355	.0145	-.0923	.3324
-1.06	-.0539	.3243	.0077	-.0599	.3232
0.01	.0093	.3199	-.0038	.0094	.3199
1.05	.0528	.3340	-.0139	.0589	.3329
2.08	.0833	.3446	-.0221	.0957	.3414
3.11	.1121	.3554	-.0306	.1312	.3488
4.14	.1378	.3642	-.0381	.1637	.3533
5.16	.1662	.3764	-.0447	.1994	.3600
6.20	.1916	.3913	-.0517	.2328	.3683
7.23	.2171	.4041	-.0588	.2663	.3736
8.26	.2424	.4180	-.0640	.3000	.3789
9.29	.2675	.4333	-.0718	.3339	.3844
10.31	.2905	.4551	-.0802	.3672	.3958
12.38	.3328	.4970	-.0921	.4317	.4141
14.44	.3706	.5338	-.1005	.4920	.4245
16.49	.4063	.5885	-.1126	.5566	.4490
18.54	.4338	.6417	-.1236	.6153	.4705
20.58	.4488	.6756	-.1315	.6577	.4747
22.61	.4569	.7125	-.1393	.6957	.4820
23.63	.4584	.7257	-.1451	.7109	.4812

TABLE VIII.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP OFF AND l/d = 1.00 - Concluded

(c) r_c/d = 0.50

M=0.25			R = 1.72 x 10⁶			M=0.40			R = 2.61 x 10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.01	-.0559	.1806	.0043	-.0622	.1785	-2.02	-.0478	.1743	.0072	-.0539	.1725
-1.00	-.0157	.1723	-.0058	-.0187	.1720	-1.00	-.0105	.1623	-.0004	-.0133	.1621
0.00	.0211	.1724	-.0107	.0211	.1724	0.01	.0238	.1671	-.0055	.0238	.1671
1.01	.0532	.1853	-.0163	.0565	.1844	1.02	.0538	.1789	-.0113	.0570	.1779
2.01	.0853	.1924	-.0203	.0919	.1893	2.03	.0855	.1890	-.0174	.0921	.1859
3.02	.1168	.2008	-.0284	.1272	.1943	3.04	.1188	.1964	-.0245	.1290	.1898
4.02	.1398	.2097	-.0321	.1542	.1994	4.05	.1409	.2054	-.0298	.1550	.1949
5.03	.1669	.2175	-.0385	.1854	.2021	5.07	.1665	.2144	-.0349	.1847	.1989
6.03	.1986	.2246	-.0443	.2211	.2025	6.08	.1975	.2233	-.0424	.2201	.2011
7.03	.2208	.2364	-.0497	.2480	.2076	7.09	.2172	.2328	-.0466	.2442	.2042
8.04	.2479	.2451	-.0553	.2798	.2080	8.10	.2442	.2422	-.0532	.2759	.2054
9.04	.2740	.2594	-.0610	.3114	.2131	9.11	.2709	.2536	-.0592	.3077	.2075
10.05	.3003	.2726	-.0668	.3433	.2160	10.12	.2955	.2656	-.0651	.3376	.2096
12.06	.3526	.2972	-.0809	.4069	.2169	12.14	.3404	.2911	-.0757	.3940	.2130
14.08	.3988	.3297	-.0916	.4670	.2228	14.16	.3841	.3191	-.0868	.4505	.2154
16.08	.4390	.3645	-.1039	.5228	.2286	16.18	.4220	.3524	-.0970	.5035	.2208
18.09	.4854	.4078	-.1160	.5880	.2369	18.20	.4584	.3879	-.1067	.5567	.2253
20.10	.5198	.4442	-.1252	.6408	.2385	20.22	.4872	.4212	-.1161	.6028	.2268
22.11	.5522	.4836	-.1361	.6936	.2402	22.24	.5162	.4571	-.1253	.6508	.2277
23.11	.5667	.5014	-.1411	.7180	.2388	23.25	.5357	.4794	-.1307	.6814	.2290
M=0.50			R=3.07 x 10⁶			M=0.60			R = 3.40 x 10⁶		
-2.04	-.0534	.1699	.0080	-.0594	.1679	-2.05	-.0556	.1614	.0081	-.0614	.1593
-1.01	-.0164	.1578	.0011	-.0192	.1575	-1.01	-.0164	.1533	.0012	-.0191	.1530
0.01	.0250	.1622	-.0045	.0250	.1622	0.01	.0224	.1586	-.0043	.0224	.1586
1.03	.0571	.1747	-.0110	.0602	.1737	1.04	.0559	.1682	-.0107	.0590	.1672
2.05	.0875	.1835	-.0171	.0940	.1803	2.07	.0863	.1799	-.0164	.0927	.1767
3.07	.1153	.1933	-.0232	.1255	.1868	3.09	.1137	.1876	-.0225	.1236	.1812
4.08	.1392	.2001	-.0284	.1530	.1897	4.11	.1407	.1984	-.0286	.1545	.1878
5.10	.1654	.2086	-.0347	.1832	.1931	5.13	.1650	.2069	-.0339	.1828	.1913
6.12	.1939	.2191	-.0408	.2162	.1972	6.15	.1972	.2173	-.0409	.2194	.1950
7.13	.2186	.2282	-.0462	.2452	.1993	7.18	.2227	.2291	-.0461	.2496	.1995
8.14	.2444	.2371	-.0520	.2755	.2001	8.20	.2507	.2403	-.0526	.2824	.2020
9.16	.2682	.2495	-.0580	.3045	.2036	9.22	.2759	.2523	-.0581	.3127	.2048
10.17	.2934	.2609	-.0636	.3349	.2050	10.24	.3004	.2650	-.0640	.3427	.2074
12.21	.3391	.2862	-.0745	.3919	.2080	12.28	.3478	.2893	-.0747	.4013	.2087
14.24	.3826	.3140	-.0849	.4480	.2103	14.33	.3898	.3204	-.0853	.4570	.2139
16.27	.4241	.3509	-.0959	.5054	.2180	16.37	.4348	.3574	-.0964	.5179	.2204
18.29	.4588	.3858	-.1054	.5567	.2223	18.41	.4695	.3930	-.1057	.5696	.2246
20.62	1.0513	.6373	-.2545	1.2084	.2263	20.45	.5076	.4326	-.1168	.6267	.2279
22.35	.5190	.4584	-.1239	.6543	.2266	22.48	.5352	.4666	-.1254	.6729	.2265
23.36	.5330	.4753	-.1282	.6778	.2250	23.49	.5472	.4823	-.1294	.6941	.2242
M=0.70			R=3.69 x 10⁶								
-2.06	-.0596	.1735	.0084	-.0658	.1713						
-1.03	-.0238	.1627	.0019	-.0267	.1623						
0.02	.0238	.1627	-.0041	.0239	.1627						
1.06	.0553	.1770	-.0095	.0586	.1760						
2.09	.0878	.1877	-.0161	.0945	.1844						
3.12	.1193	.1980	-.0226	.1299	.1912						
4.15	.1468	.2092	-.0280	.1615	.1981						
5.18	.1761	.2209	-.0344	.1953	.2041						
6.21	.2102	.2342	-.0419	.2343	.2101						
7.23	.2334	.2500	-.0472	.2630	.2186						
8.27	.2605	.2616	-.0530	.2954	.2214						
9.30	.2930	.2754	-.0602	.3336	.2245						
10.32	.3136	.2841	-.0649	.3594	.2233						
12.39	.3688	.3197	-.0782	.4288	.2332						
14.44	.4159	.3596	-.0906	.4925	.2445						
16.49	.4587	.3993	-.1025	.5531	.2527						
18.55	.5055	.4550	-.1191	.6239	.2706						
20.61	.5422	.4993	-.1318	.6833	.2764						
22.65	.5752	.5374	-.1442	.7378	.2745						
23.67	.5881	.5564	-.1496	.7620	.2735						

TABLE IX.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP OFF AND $l/d = 2.00$

(a) $r_c/d = 0.00$

M=0.25			R=1.70x10⁶			M=0.40			R=2.57x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-1.98	-.0608	.8260	.1700	-.0893	.8234	-1.95	-.0286	.8232	.1367	-.0566	.8217
-0.99	-.0273	.8113	.0922	-.0413	.8107	-0.98	-.0086	.8224	.0669	-.0227	.8222
0.00	.0071	.8094	-.0153	.0071	.8094	-0.01	.0003	.8223	-.0245	.0002	.8223
0.99	.0434	.8183	-.1109	.0575	.8175	0.97	.0153	.8290	-.0747	.0293	.8286
1.99	.0828	.8335	-.1829	.1117	.8301	1.95	.0419	.8386	-.1491	.0704	.8367
2.98	.1147	.8615	-.2415	.1593	.8543	2.94	.0696	.8554	-.2118	.1134	.8507
3.98	.1441	.8840	-.2807	.2052	.8719	3.94	.1054	.8762	-.2662	.1654	.8669
4.98	.1702	.9217	-.2993	.2496	.9034	4.94	.1385	.9099	-.3026	.2164	.8946
5.99	.1884	.9484	-.3071	.2864	.9235	5.96	.1699	.9452	-.3277	.2671	.9225
7.01	.2071	.9762	-.3098	.3247	.9436	6.97	.1883	.9734	-.3345	.3050	.9433
8.01	.2213	1.0067	-.3043	.3594	.9661	8.00	.2062	1.0000	-.3287	.3434	.9616
9.02	.2318	1.0307	-.2939	.3905	.9817	9.02	.2163	1.0302	-.3274	.3751	.9836
10.03	.2491	1.0591	-.2929	.4298	.9995	10.05	.2297	1.0581	-.3145	.4108	1.0018
12.05	.2766	1.1064	-.2795	.5015	1.0243	12.10	.2524	1.1081	-.2978	.4791	1.0306
14.07	.3102	1.1764	-.2717	.5869	1.0657	14.15	.2800	1.1553	-.2891	.5539	1.0518
16.09	.3382	1.2208	-.2688	.6633	1.0793	16.20	.3065	1.2023	-.2773	.6297	1.0691
18.12	.3828	1.2853	-.2672	.7635	1.1025	18.25	.3417	1.2405	-.2720	.7130	1.0711
20.14	.4371	1.3398	-.2813	.8717	1.1074	20.29	.3766	1.2957	-.2904	.8025	1.0847
22.16	.4928	1.4118	-.3035	.9889	1.1216	22.33	.4199	1.3641	-.3164	.9067	1.1023
23.17	.5116	1.4421	-.3189	1.0377	1.1245	23.35	.4260	1.3794	-.3148	.9378	1.0976

(b) $r_c/d = 0.05$

M=0.25			R=1.66x10⁶			M=0.40			R=2.52x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.00	-.0955	.6914	.1216	-.1195	.6877	-2.04	-.0675	.6088	.0220	-.0892	.6060
-1.00	-.0596	.6718	.0791	-.0713	.6707	-1.03	-.0343	.6016	.0083	-.0451	.6009
-0.01	.0134	.6602	-.0344	.0133	.6602	0.00	.0066	.6018	.0046	.0066	.6018
0.99	.0677	.6786	-.1196	.0794	.6773	1.02	.0527	.6072	-.0257	.0635	.6062
2.00	.0987	.6873	-.1410	.1226	.6835	2.03	.0858	.6386	-.0611	.1083	.6352
3.00	.1265	.7063	-.1530	.1633	.6987	3.03	.1148	.6564	-.0862	.1493	.6494
4.01	.1506	.7172	-.1576	.2004	.7049	4.04	.1436	.6757	-.1025	.1908	.6639
5.01	.1705	.7312	-.1573	.2337	.7135	5.07	.1673	.6900	-.1152	.2276	.6725
6.03	.1944	.7467	-.1564	.2717	.7222	6.08	.1905	.7055	-.1156	.2641	.6813
7.03	.2135	.7672	-.1531	.3058	.7353	7.10	.2111	.7254	-.1171	.2992	.6937
8.05	.2315	.7863	-.1572	.3393	.7462	8.12	.2263	.7495	-.1224	.3299	.7100
9.05	.2555	.8075	-.1514	.3793	.7572	9.13	.2409	.7743	-.1276	.3607	.7263
10.07	.2738	.8125	-.1340	.4117	.7521	10.15	.2566	.7886	-.1213	.3916	.7311
12.09	.3239	.8494	-.1084	.4946	.7628	12.22	.3139	.8100	-.0869	.4783	.7252
14.12	.3754	.8920	-.0930	.5817	.7735	14.28	.3672	.8557	-.0766	.5670	.7387
16.15	.4369	.9553	-.0925	.6854	.7961	16.32	.4157	.9377	-.1026	.6625	.7831
18.16	.4901	1.0343	-.1338	.7881	.8301	18.36	.4639	1.0302	-.1469	.7648	.8317
20.18	.5502	1.1303	-.1730	.9063	.8711	20.39	.5229	1.1093	-.1961	.8766	.8576
22.19	.6165	1.2127	-.2225	1.0288	.8901	22.43	.5658	1.1887	-.2221	.9765	.8829
23.20	.6447	1.2524	-.2457	1.0860	.8971	23.46	.5983	1.2211	-.2315	1.0349	.8820

M=0.50			R=2.96x10⁶			M=0.60			R=3.55x10⁶		
-2.03	-.0707	.6400	.0562	-.0934	.6371	-1.98	-.0697	.6739	.1048	-.0930	.6711
-0.99	-.0480	.6346	.0664	-.0590	.6337	-1.01	-.0283	.6629	.0341	-.0400	.6623
0.04	-.0087	.6221	.0436	-.0083	.6221	-0.06	.0220	.6611	-.0683	.0213	.6611
1.04	.0448	.6322	-.0110	.0563	.6313	0.92	.0598	.6806	-.1343	.0707	.6795
2.06	.0879	.6524	-.0375	.1113	.6488	1.93	.0921	.6979	-.1752	.1155	.6944
3.04	.1163	.6655	-.0928	.1514	.6584	2.95	.1180	.7129	-.1903	.1545	.7059
4.07	.1450	.6880	-.1166	.1934	.6760	3.97	.1389	.7303	-.2005	.1892	.7189
5.08	.1706	.7063	-.1272	.2324	.6884	5.03	.1632	.7374	-.1963	.2273	.7203
6.10	.1929	.7280	-.1381	.2692	.7034						
7.13	.2069	.7446	-.1423	.2977	.7131						
8.15	.2266	.7679	-.1445	.3332	.7280						
9.18	.2459	.7924	-.1528	.3692	.7430						
10.20	.2653	.8153	-.1590	.4055	.7554						
12.27	.2994	.8637	-.1501	.4762	.7804						
14.35	.3533	.9458	-.1497	.5767	.8287						
16.43	.4070	.9937	-.1607	.6715	.8380						
18.48	.4637	1.0674	-.1985	.7781	.8654						
20.55	.5153	1.1387	-.2211	.8822	.8853						
22.64	.5664	1.2226	-.2346	.9934	.9104						

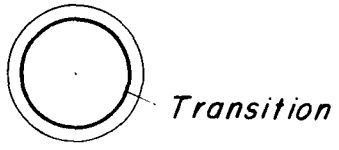
TABLE IX.- EFFECT OF CORNER RADIUS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH TRANSITION STRIP OFF AND $l/d = 2.00$ - Concluded

(c) $r_c/d = 0.10$

M=0.25			R=1.69 x10⁶			M=0.40			R=2.56x10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-2.02	-.0888	.1770	.0065	-.0949	.1738	-2.05	-.0876	.1678	.0027	-.0935	.1646
-1.01	-.0599	.1626	.0098	-.0628	.1615	-1.03	-.0519	.1567	.0053	-.0547	.1558
0.00	.0005	.1585	-.0001	.0005	.1585	0.00	.0003	.1497	-.0001	.0003	.1497
1.01	.0479	.1725	-.0033	.0509	.1717	1.03	.0454	.1619	-.0013	.0483	.1611
2.02	.0869	.1834	.0001	.0933	.1802	2.05	.0815	.1733	.0035	.0876	.1703
3.03	.1123	.1926	.0055	.1223	.1864	3.07	.1116	.1830	.0073	.1212	.1767
4.04	.1420	.2031	.0089	.1559	.1926	4.10	.1417	.1920	.0121	.1550	.1814
5.05	.1720	.2124	.0140	.1900	.1965	5.12	.1735	.2033	.0172	.1909	.1870
6.06	.2067	.2213	.0187	.2289	.1983	6.15	.2053	.2138	.0228	.2270	.1906
7.07	.2322	.2326	.0252	.2590	.2022	7.17	.2334	.2242	.0289	.2596	.1933
8.08	.2618	.2477	.0306	.2940	.2084	8.19	.2661	.2372	.0328	.2972	.1969
9.09	.3002	.2633	.0341	.3380	.2126	9.21	.2954	.2501	.0367	.3316	.1996
10.10	.3291	.2786	.0370	.3729	.2166	10.24	.3265	.2647	.0448	.3684	.2025
12.12	.3985	.3203	.0403	.4569	.2295	12.28	.3774	.2958	.0545	.4317	.2087
14.14	.4542	.3599	.0453	.5283	.2380	14.33	.4308	.3362	.0612	.5006	.2191
16.16	.5186	.4142	.0438	.6134	.2535	16.37	.4814	.3816	.0636	.5695	.2304
18.18	.5714	.4710	.0407	.6899	.2692	18.41	.5284	.4339	.0653	.6384	.2448
20.20	.6196	.5246	.0373	.7626	.2784						
22.21	.6716	.5777	.0293	.8402	.2809	22.47	.6164	.6185	.0024	.8060	.3359
23.22	.7101	.6155	.0239	.8953	.2856	23.48	.6344	.6576	-.0156	.8439	.3504
M=0.50			R=3.00x10⁶			M=0.60			R=3.35x10⁶		
-2.07	-.0834	.1858	.0000	-.0900	.1827	-2.09	-.0816	.3813	.0157	-.0954	.3780
-1.05	-.0522	.1723	.0053	-.0554	.1713	-1.05	-.0508	.3784	.0133	-.0577	.3774
0.00	-.0021	.1654	.0013	-.0021	.1654	0.00	.0045	.3788	-.0036	.0045	.3788
1.04	.0455	.1759	-.0005	.0487	.1751	1.05	.0481	.3830	-.0126	.0551	.3820
2.07	.0793	.1904	.0042	.0861	.1874	2.09	.0751	.3884	-.0143	.0893	.3854
3.11	.1129	.2061	.0100	.1239	.1997	3.12	.1071	.4050	-.0181	.1289	.3986
4.15	.1412	.2150	.0154	.1564	.2042	4.17	.1305	.4184	-.0173	.1606	.4078
5.18	.1703	.2277	.0204	.1902	.2114	5.20	.1594	.4332	-.0181	.1980	.4170
6.21	.2012	.2574	.0241	.2278	.2341	6.24	.1861	.4472	-.0174	.2336	.4244
7.25	.2337	.2888	.0292	.2682	.2570	7.29	.2122	.4662	-.0150	.2697	.4355
8.29	.2598	.3129	.0342	.3022	.2721	8.33	.2389	.4805	-.0106	.3060	.4408
9.33	.2900	.3386	.0368	.3411	.2871	9.39	.2682	.5025	-.0045	.3466	.4520
10.36	.3191	.3602	.0389	.3787	.2969	10.43	.2924	.5250	-.0028	.3826	.4634
12.41	.3662	.4099	.0392	.4457	.3216	12.51	.3415	.5834	-.0050	.4598	.4956
14.47	.4127	.4670	.0345	.5163	.3491	14.59	.3774	.6356	-.0065	.5253	.5200
16.53	.4626	.5383	.0314	.5967	.3845	16.67	.4325	.7226	-.0302	.6216	.5681
18.59	.5053	.6130	.0220	.6743	.4199	18.73	.4768	.7875	-.0549	.7044	.5927
20.65	.5482	.6735	.0066	.7505	.4369	20.82	.5275	.8715	-.0824	.8029	.6271
22.68	.5884	.7265	-.0139	.8230	.4434	22.88	.5687	.9262	-.1050	.8841	.6322
23.73	.6295	.8035	-.0398	.8997	.4823	23.93	.5955	.9706	-.1196	.9380	.6457
M=0.70			R=3.73x10⁶								
-2.08	-.0838	.5308	.0407	-.1030	.5274						
-1.05	-.0523	.5186	.0221	-.0618	.5175						
-0.01	.0027	.4998	-.0091	.0026	.4998						
1.03	.0450	.5205	-.0309	.0544	.5196						
2.07	.0774	.5364	-.0464	.0967	.5333						
3.11	.1029	.5454	-.0562	.1323	.5390						
4.14	.1322	.5605	-.0679	.1724	.5495						
5.18	.1568	.5829	-.0781	.2088	.5663						
6.23	.1810	.5969	-.0815	.2447	.5738						

TABLE X.- EFFECT OF LOCATION OF TRANSITION ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH $l/d = 1.00$ AND $r_c/d = 0.05$

(a)



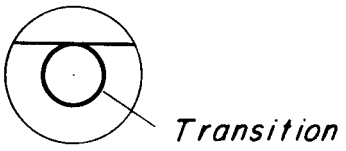
M = 0.25			R = 1.59 x 10⁶		
α	C_L	C_D	C_m	C_N	C_A
-2.03	-.1097	.4672	.0100	-.1261	.4630
-1.01	-.0774	.4576	.0074	-.0855	.4561
-0.01	-.0445	.4539	.0036	-.0446	.4539
1.00	.0187	.4477	.0048	.0265	.4473
2.02	.0624	.4652	.0028	.0788	.4627
3.03	.0977	.4860	-.0039	.1233	.4801
4.03	.1219	.5031	-.0087	.1570	.4933
5.03	.1531	.5197	-.0153	.1981	.5043
6.05	.1877	.5071	-.0124	.2401	.4845
7.05	.2146	.5258	-.0206	.2775	.4955
8.06	.2334	.5491	-.0228	.3081	.5110
9.07	.2720	.5255	-.0061	.3514	.4760
10.08	.2937	.5540	-.0067	.3862	.4940
12.09	.3212	.6012	-.0189	.4400	.5206
14.09	.3352	.6507	-.0282	.4835	.5495
16.10	.3420	.7032	-.0367	.5236	.5808
18.10	.3572	.7585	-.0460	.5752	.6100
20.11	.3484	.8086	-.0548	.6052	.6395
22.11	.3300	.8469	-.0598	.6245	.6604
23.11	.3145	.8697	-.0614	.6307	.6765

M = 0.40			R = 2.37 x 10⁶		
α	C_L	C_D	C_m	C_N	C_A
-2.03	-.0875	.4993	.0229	-.1051	.4959
-1.02	-.0585	.4939	.0134	-.0673	.4928
-0.01	-.0229	.4878	.0050	-.0230	.4878
1.02	.0252	.4908	-.0012	.0339	.4903
2.03	.0618	.5045	-.0121	.0797	.5020
3.02	.0859	.5297	-.0350	.1137	.5245
4.02	.0918	.5585	-.0591	.1308	.5507
5.00	.0874	.5758	-.0781	.1373	.5660
6.01	.0982	.5951	-.0875	.1600	.5815
7.03	.1171	.6013	-.0866	.1898	.5825
8.05	.1518	.6090	-.0809	.2356	.5817
9.08	.1815	.6100	-.0717	.2755	.5738
10.09	.1966	.6226	-.0688	.3027	.5786
12.14	.2489	.6381	-.0556	.3775	.5715
14.17	.2648	.6756	-.0558	.4221	.5902
16.18	.2766	.7165	-.0582	.4653	.6110
18.20	.2775	.7542	-.0615	.4992	.6298
20.20	.2534	.7924	-.0660	.5114	.6562
22.19	.2104	.8231	-.0687	.5057	.6826
23.19	.1984	.8352	-.0675	.5113	.6896

M = 0.50			R = 2.81 x 10⁶		
-2.00	-.0513	.5574	.0405	-.0708	.5553
-1.00	-.0348	.5536	.0270	-.0445	.5529
0.00	-.0129	.5554	.0117	-.0129	.5554
1.00	.0074	.5680	-.0086	.0173	.5678
1.96	-.0008	.5950	-.0483	.0195	.5947
2.95	.0025	.6131	-.0655	.0341	.6122
3.95	.0115	.6248	-.0749	.0545	.6225
4.95	.0161	.6340	-.0842	.0707	.6302
5.96	.0315	.6499	-.0927	.0988	.6431
6.97	.0368	.6605	-.0961	.1167	.6511
7.98	.0498	.6751	-.1001	.1430	.6617
9.00	.0583	.6898	-.0995	.1655	.6722
10.01	.0674	.7053	-.1005	.1890	.6829
12.07	.1053	.7298	-.0964	.2556	.6917
14.13	.1492	.7422	-.0840	.3259	.6833
16.19	.1816	.7685	-.0754	.3887	.6874
18.22	.1848	.8043	-.0728	.4270	.7062
20.25	.1786	.8364	-.0691	.4571	.7229
22.26	.1470	.8591	-.0693	.4614	.7394
23.26	.1380	.8895	-.0697	.4781	.7627

TABLE X.- EFFECT OF LOCATION OF TRANSITION ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH $l/d = 1.00$ AND $r_c/d = 0.05$ - Continued

(b)

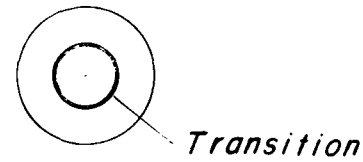


M = 0.25			R = 1.57 x 10⁶			M = 0.40			R = 2.36 x 10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-1.95	.0913	.7103	.0950	.0670	.7130	-1.96	-.0125	.6143	.0697	-.0335	.6135
-0.95	.0928	.7048	.0873	.0811	.7062	-0.91	.0735	.6747	.0696	.0628	.6758
0.04	.0760	.6950	.0755	.0765	.6949	0.10	.0922	.7102	.0623	.0934	.7100
1.04	.0558	.6714	.0614	.0680	.6703	1.09	.0716	.6992	.0536	.0849	.6977
2.03	.0231	.6863	.0340	.0474	.6851	2.04	.0114	.6950	.0236	.0361	.6942
3.02	.0084	.6347	.0077	.0418	.6334	3.03	.0012	.6455	.0131	.0353	.6445
4.01	.0161	.6177	-.0138	.0593	.6151	4.01	-.0026	.6332	-.0071	.0417	.6318
4.98	-.0864	.6910	-.0612	-.0261	.6959	4.99	-.0087	.6448	-.0353	.0474	.6432
5.99	-.0304	.6781	-.0771	.0406	.6776	5.98	-.0076	.6610	-.0601	.0613	.6582
6.99	.0094	.6811	-.0945	.0922	.6749	6.98	.0064	.6698	-.0825	.0878	.6640
7.99	.0402	.6978	-.1104	.1368	.6854	7.97	.0181	.6866	-.1019	.1131	.6775
8.99	.0564	.7118	-.1188	.1669	.6943	8.97	.0229	.7050	-.1165	.1325	.6928
10.01	.0858	.7156	-.1218	.2089	.6898	9.99	.0631	.7171	-.1275	.1865	.6953
12.03	.1763	.7093	-.1149	.3202	.6570	12.07	.1991	.6909	-.1150	.3392	.6340
14.04	.2302	.7353	-.1151	.4017	.6575	14.10	.2347	.7165	-.1194	.4021	.6377
16.06	.2725	.7608	-.1160	.4724	.6557	16.13	.2575	.7461	-.1231	.4547	.6452
18.06	.2833	.7991	-.1199	.5170	.6719	18.14	.2588	.7834	-.1316	.4898	.6639
20.07	.2902	.8432	-.1283	.5620	.6924	20.15	.2549	.8208	-.1394	.5220	.6828
22.07	.2775	.8916	-.1365	.5922	.7220	22.15	.2341	.8550	-.1442	.5392	.7036
23.08	.2712	.9082	-.1399	.6055	.7292	23.16	.2278	.8761	-.1473	.5540	.7159

M = 0.50			R = 2.76 x 10⁶		
-1.91	.0664	.7042	.0481	.0429	.7060
-0.89	.0908	.7399	.0394	.0793	.7412
0.06	.0456	.7340	.0245	.0464	.7340
1.02	-.0002	.7568	.0068	.0133	.7567
2.00	-.0272	.8342	-.0041	.0019	.8346
2.97	-.0628	.8306	-.0108	-.0197	.8328
3.94	-.0970	.8006	-.0247	-.0418	.8054
4.90	-.1410	.7689	-.0424	-.0748	.7781
5.88	-.1552	.7638	-.0603	-.0761	.7757
6.86	-.1737	.7583	-.0690	-.0819	.7736
7.87	-.1629	.7688	-.0806	-.0561	.7839
8.89	-.1126	.7606	-.0966	.0063	.7689
9.93	-.0345	.7412	-.1174	.0938	.7360
11.99	.0596	.7424	-.1356	.2125	.7138
14.05	.1073	.7641	-.1338	.2896	.7152
16.10	.1373	.7931	-.1355	.3518	.7239
18.15	.1794	.8167	-.1347	.4249	.7202
20.18	.1841	.8549	-.1408	.4677	.7389
22.18	.1588	.8808	-.1414	.4795	.7556
23.19	.1535	.8940	-.1406	.4931	.7614

TABLE X.- EFFECT OF LOCATION OF TRANSITION ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF THE MODEL WITH $l/d = 1.00$ AND $r_c/d = 0.05$ - Concluded

(c)



M=0.25			R=1.57 x 10⁶			M=0.40			R=2.36 x 10⁶		
α	C_L	C_D	C_m	C_N	C_A	α	C_L	C_D	C_m	C_N	C_A
-1.99	.0580	.8751	.0199	.0276	.8766	-1.93	.0786	.7486	.0439	.0534	.7508
-0.99	.0277	.8919	.0171	.0123	.8923	-0.95	.0574	.7563	.0354	.0449	.7572
0.00	.0006	.8966	.0116	.0006	.8966	0.03	.0202	.7448	.0230	.0206	.7448
1.00	-.0265	.8941	.0060	-.0109	.8945	1.01	-.0132	.7324	.0133	-.0003	.7325
2.00	-.0498	.8933	.0008	-.0186	.8945	2.00	-.0356	.7100	-.0029	-.0108	.7108
3.00	-.0834	.8780	-.0038	-.0373	.8812	2.98	-.0335	.6788	-.0205	.0018	.6796
3.98	-.1169	.8708	-.0102	-.0562	.8768	3.99	-.0210	.6487	-.0325	.0242	.6486
4.97	-.1384	.7871	-.0463	-.0697	.7961	4.99	-.0025	.6474	-.0335	.0538	.6451
5.98	-.1124	.7547	-.0660	-.0332	.7623	5.98	-.0011	.6639	-.0715	.0681	.6604
6.97	-.1065	.7479	-.0820	-.0149	.7553	6.96	-.0165	.6882	-.0895	.0670	.6851
7.98	-.0388	.7275	-.1037	.0626	.7259	7.95	-.0151	.6995	-.1030	.0817	.6949
8.99	.0158	.7302	-.1184	.1297	.7187	8.97	.0157	.7178	-.1181	.1274	.7066
9.99	.0639	.7317	-.1257	.1898	.7095	10.02	.0964	.6974	-.1197	.2162	.6700
12.02	.1625	.7198	-.1187	.3088	.6702	12.08	.2047	.6854	-.1118	.3436	.6274
14.04	.2248	.7407	-.1181	.3978	.6641	14.10	.2401	.7129	-.1169	.4066	.6329
16.06	.2680	.7642	-.1127	.4689	.6603	16.13	.2553	.7406	-.1210	.4510	.6405
18.07	.2910	.8109	-.1213	.5281	.6806	18.14	.2554	.7773	-.1278	.4847	.6592
20.07	.2966	.8572	-.1328	.5728	.7033	20.15	.2567	.8143	-.1358	.5215	.6761
22.08	.3021	.9086	-.1428	.6214	.7284	22.15	.2374	.8570	-.1438	.5430	.7043
23.08	.2838	.9254	-.1455	.6239	.7400	23.16	.2204	.8758	-.1451	.5471	.7185

M=0.50			R=2.78 x 10⁶		
-1.88	.1147	.7387	.0476	.0904	.7421
-0.91	.0858	.7759	.0324	.0735	.7772
0.03	.0168	.7873	.0148	.0172	.7873
1.00	-.0164	.7725	.0006	-.0029	.7727
1.99	-.0293	.7326	-.0101	-.0039	.7332
2.95	-.0637	.7286	-.0257	-.0261	.7309
3.92	-.0924	.7241	-.0372	-.0427	.7287
4.92	-.0957	.7284	-.0478	-.0328	.7339
5.89	-.1264	.7401	-.0637	-.0498	.7492
6.88	-.1254	.7499	-.0737	-.0347	.7595
7.89	-.0958	.7383	-.0903	.0064	.7445
8.92	-.0503	.7306	-.1064	.0636	.7296
9.94	-.0044	.7248	-.1201	.1208	.7147
12.01	.0662	.7403	-.1315	.2188	.7103
14.06	.1079	.7554	-.1320	.2882	.7066
16.10	.1567	.7843	-.1360	.3681	.7100
18.15	.1781	.8019	-.1318	.4190	.7065
20.17	.1790	.8465	-.1371	.4599	.7329
22.18	.1510	.8949	-.1418	.4776	.7717
23.18	.1395	.9002	-.1408	.4825	.7726

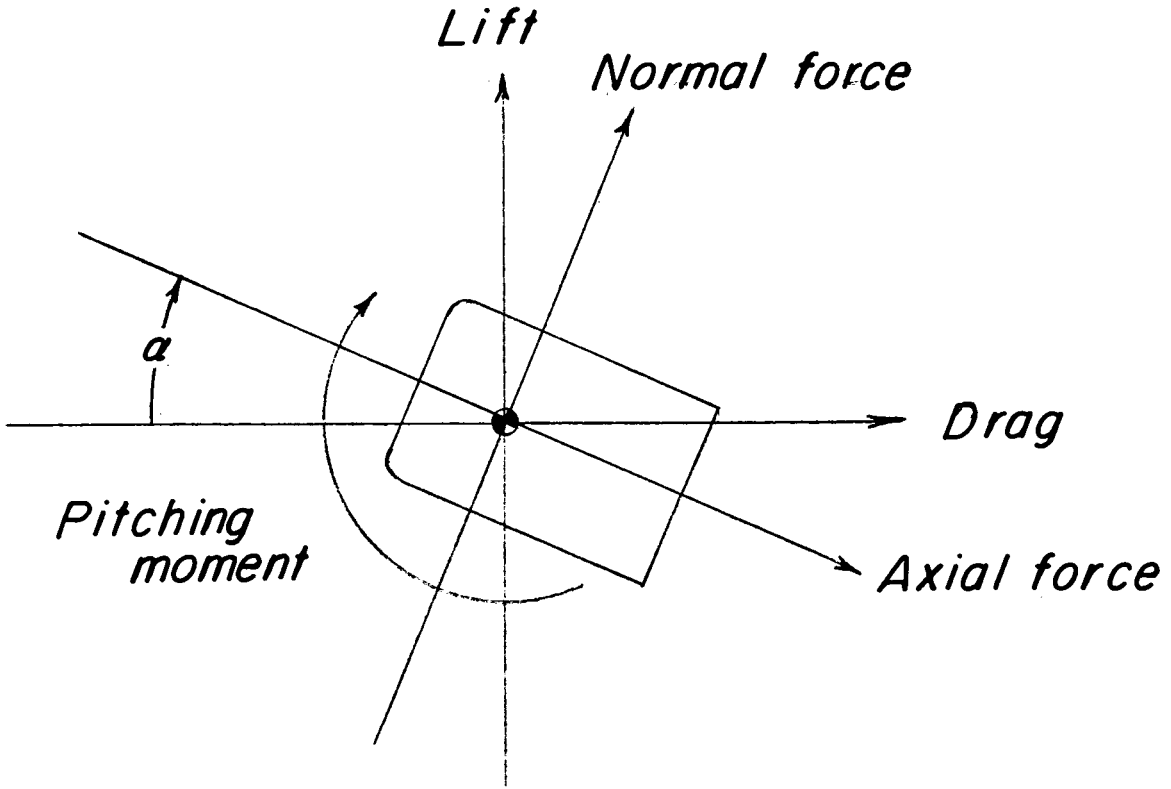
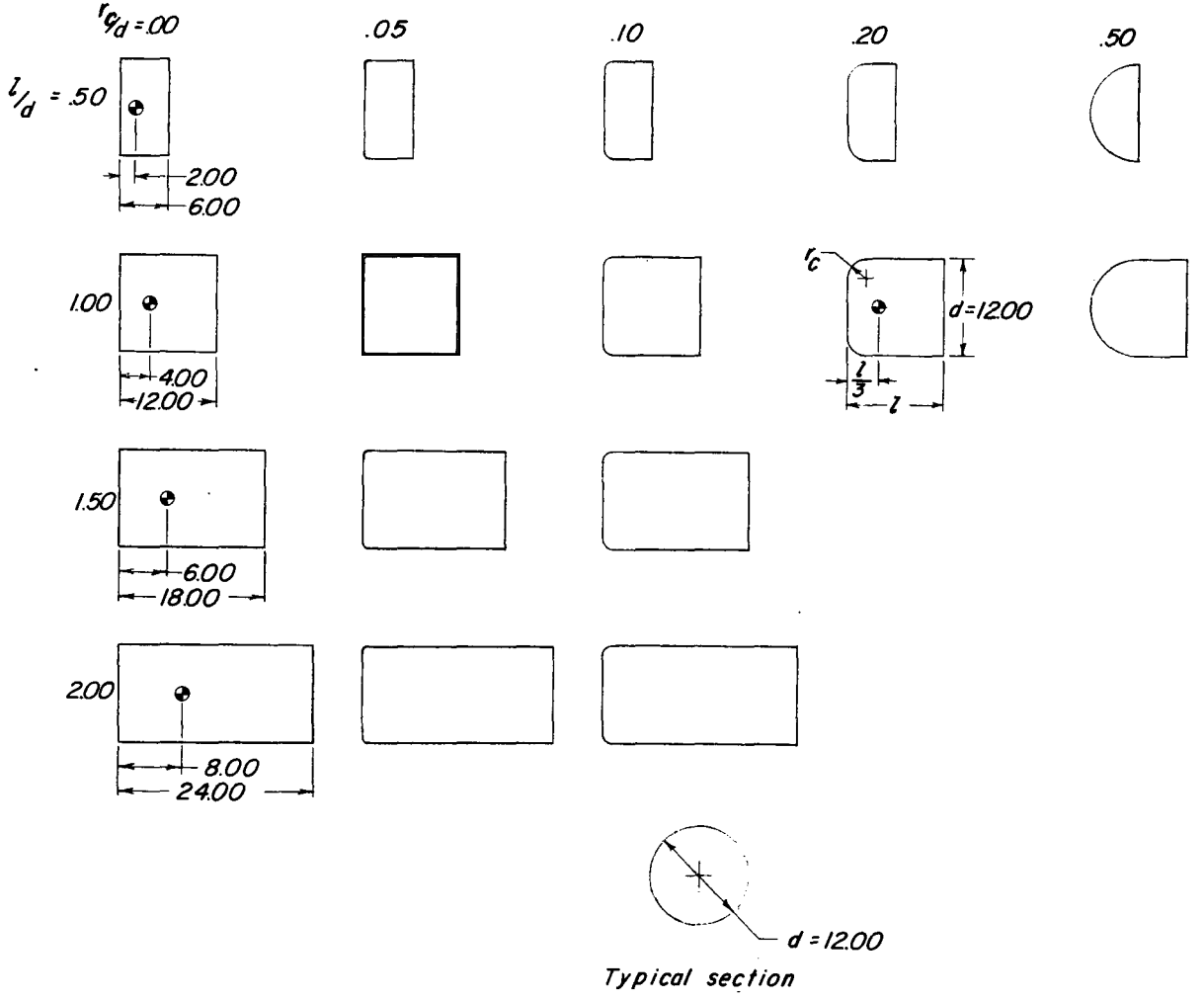
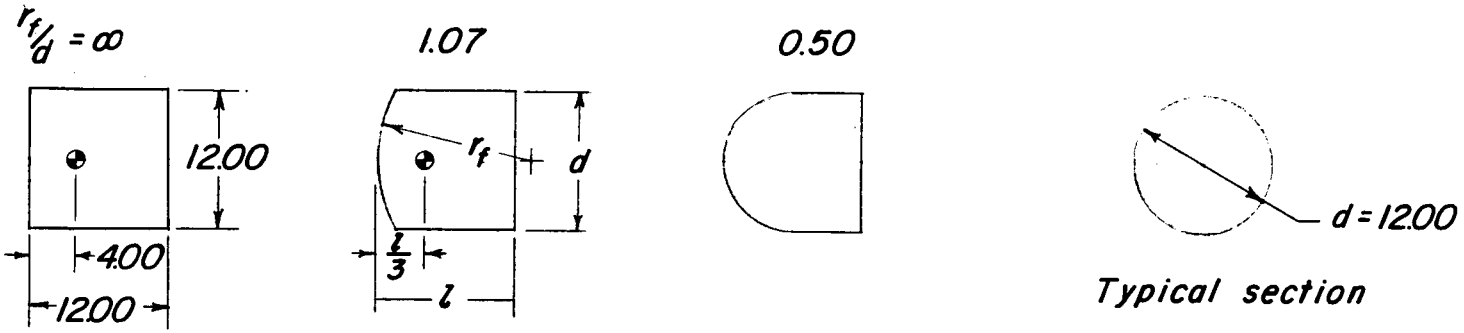


Figure 1.- System of axes used in presentation of data. Arrows indicate positive direction of forces, pitching moment, and angle of attack.

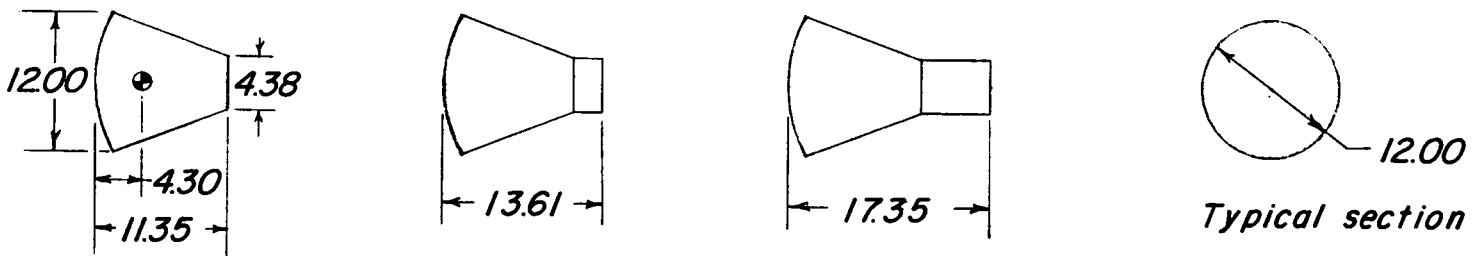


(a) Variation of corner radius and fineness ratio.

Figure 2.- Sketches of models. All dimensions are in inches.



(b) Variation of face radius. $l/d = 1.00$.



(c) Variation of cylindrical tail length of boattailed body. $r_f/d = 1.07$.

Figure 2.- Concluded.

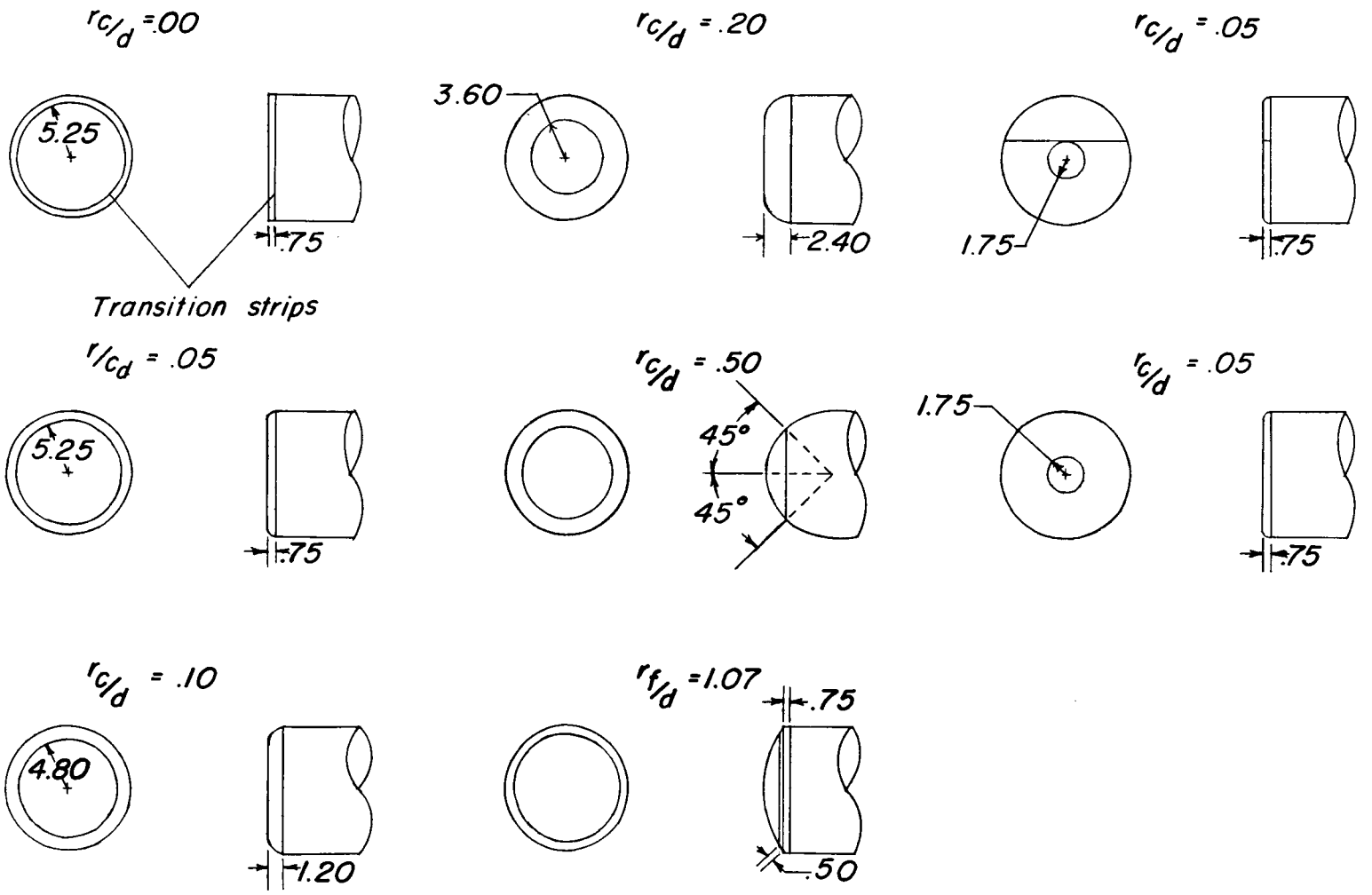


Figure 3.- Location of transition strips (all 1/8 inch wide). All dimensions are in inches.

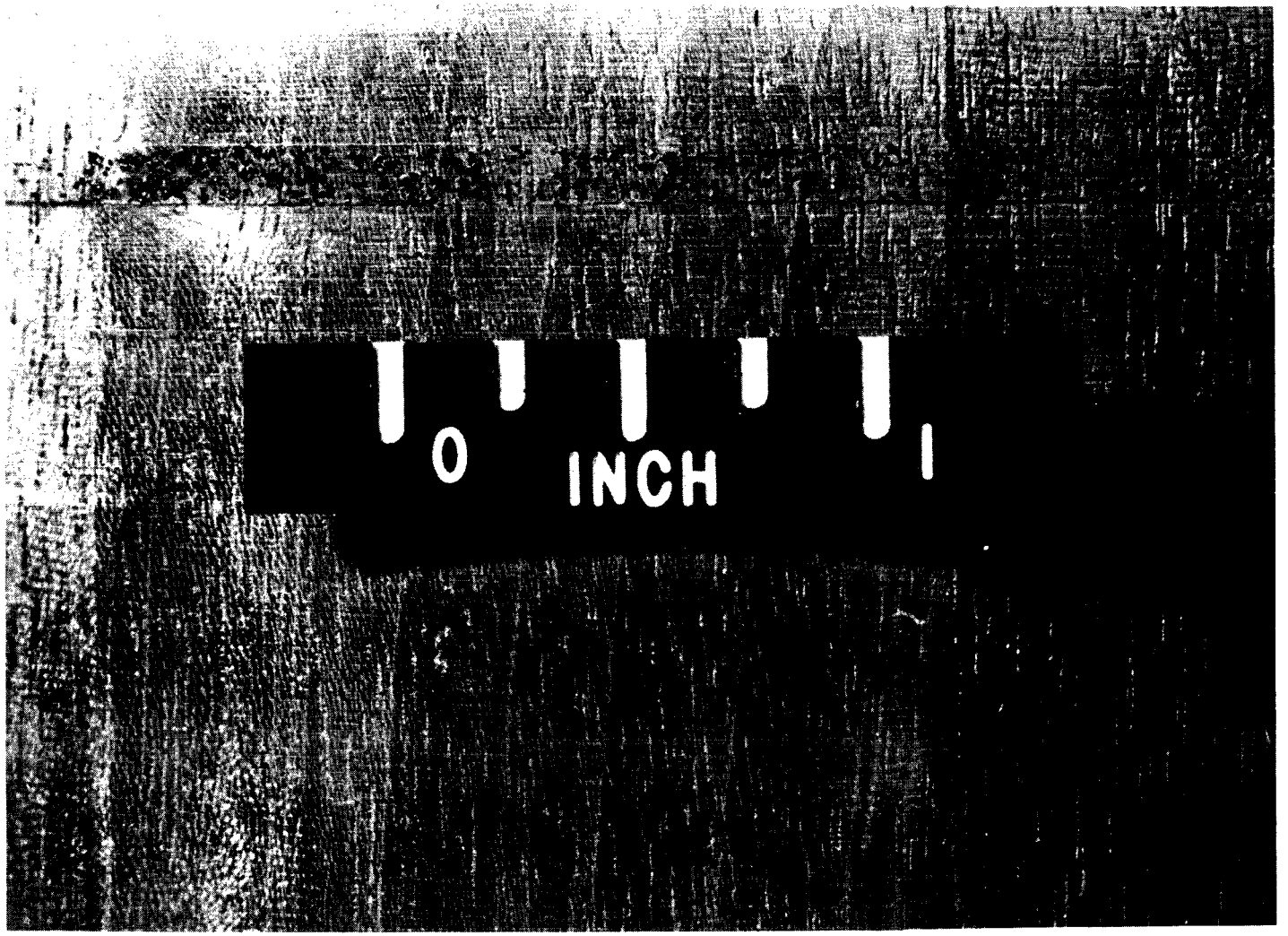


Figure 4.- Photograph showing typical transition strip.

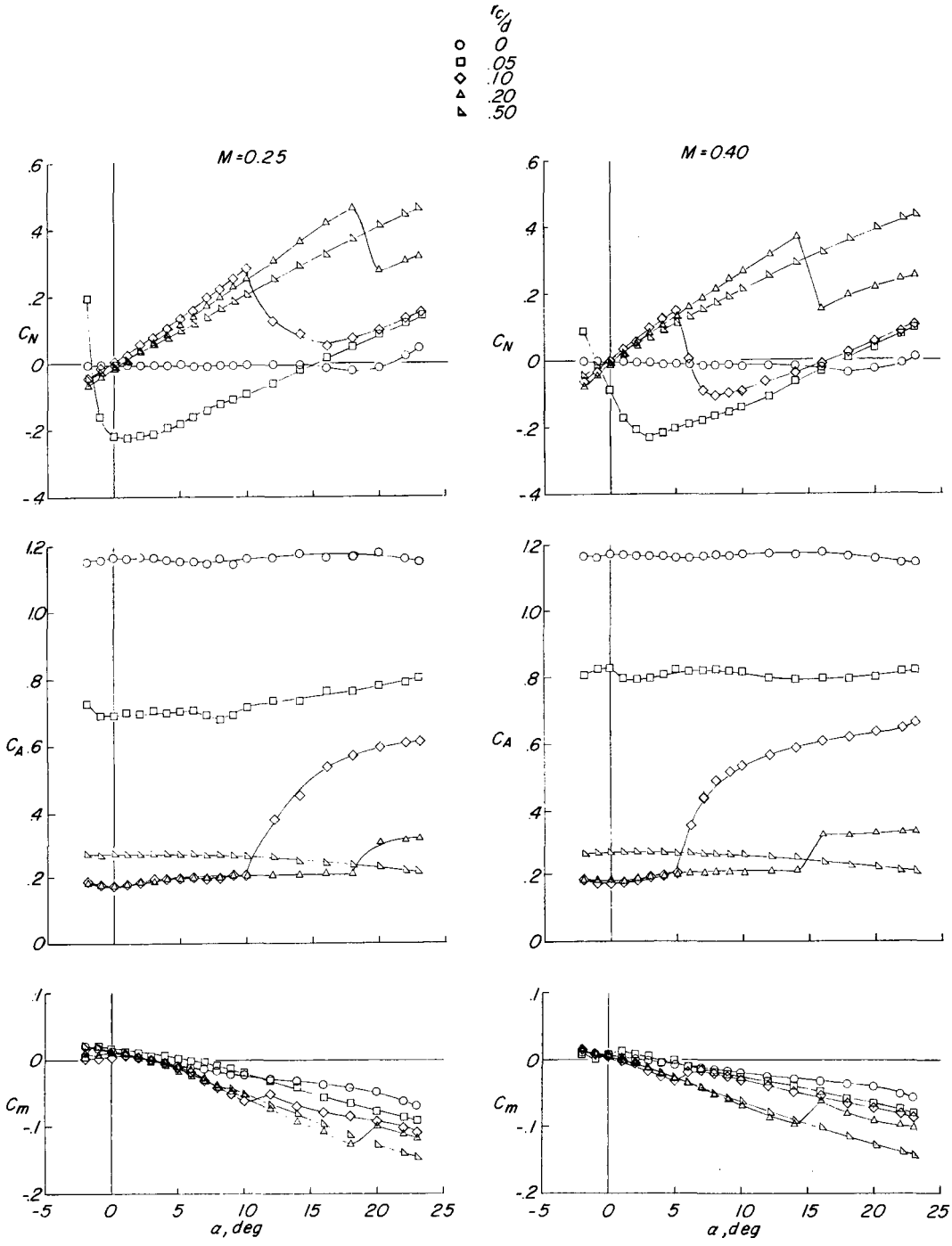


Figure 5.- Effect of corner radius on the longitudinal aerodynamic characteristics of the model with transition strip on and $l/d = 0.50$.

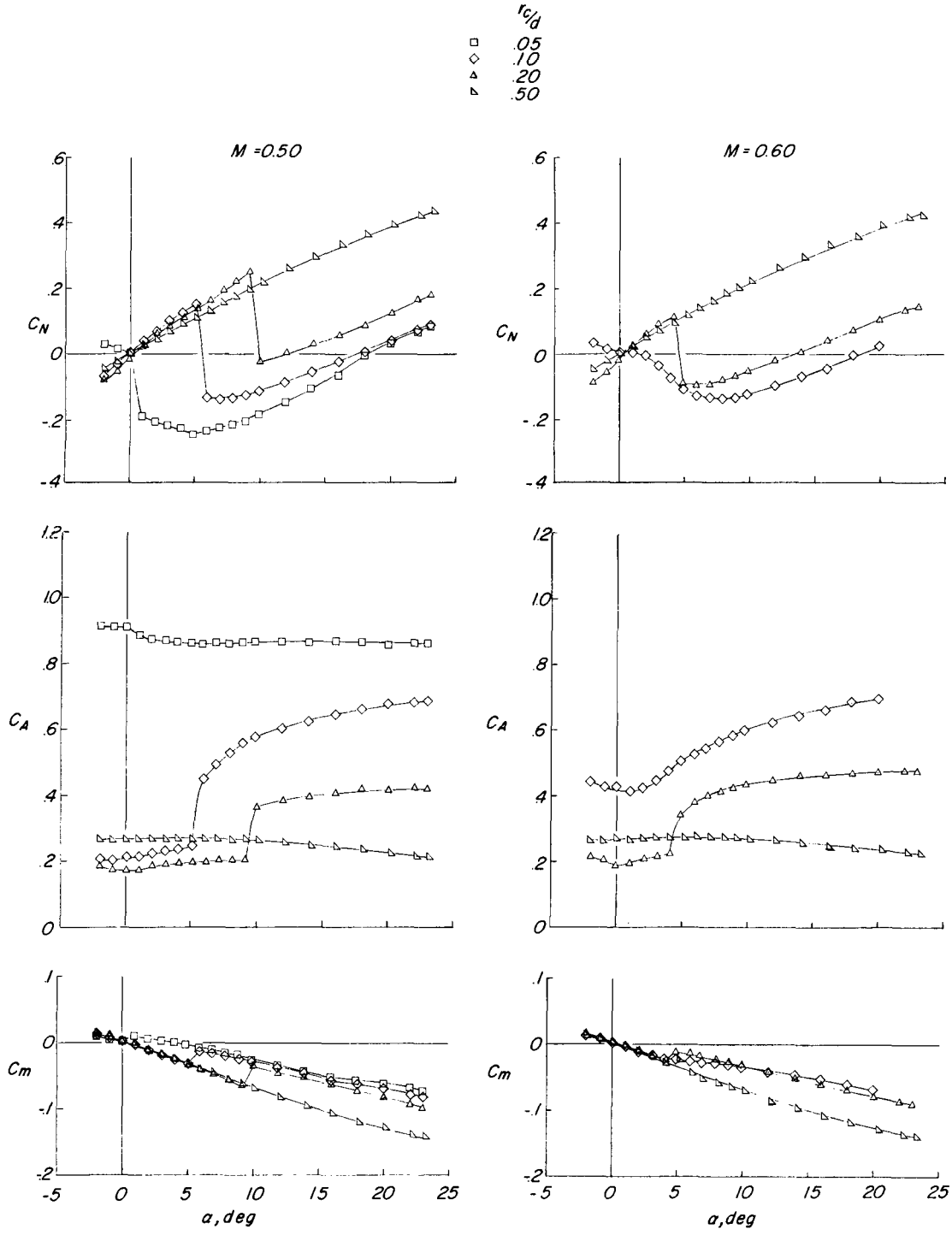


Figure 5.- Continued.

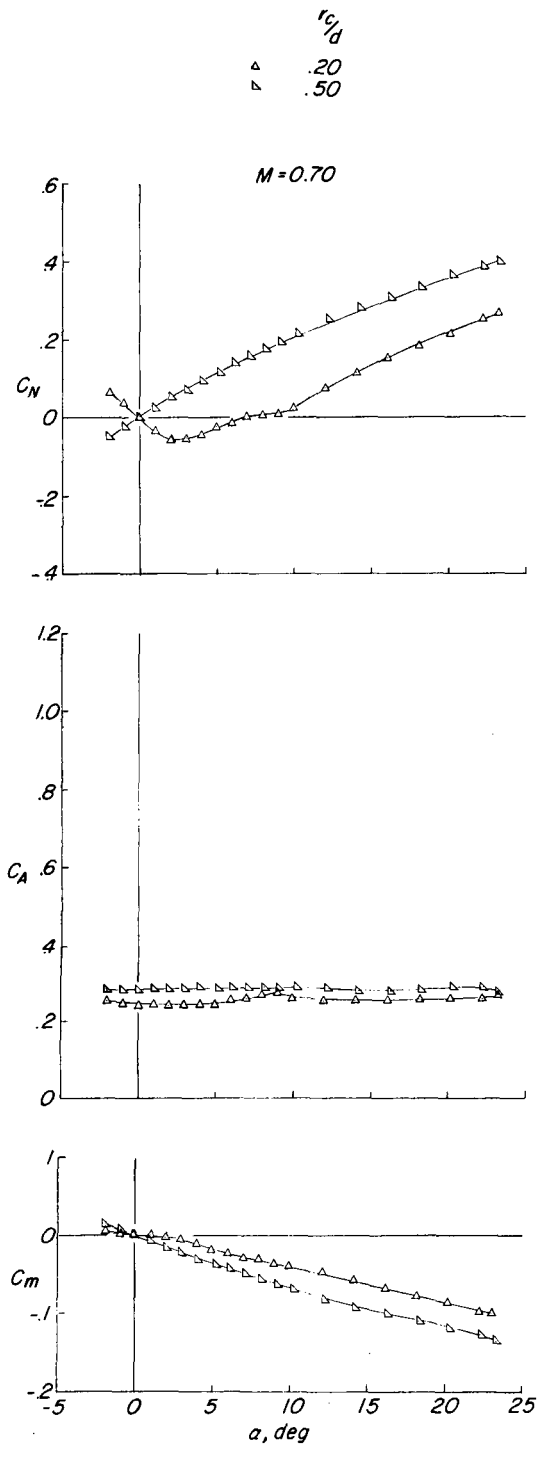


Figure 5.- Concluded.

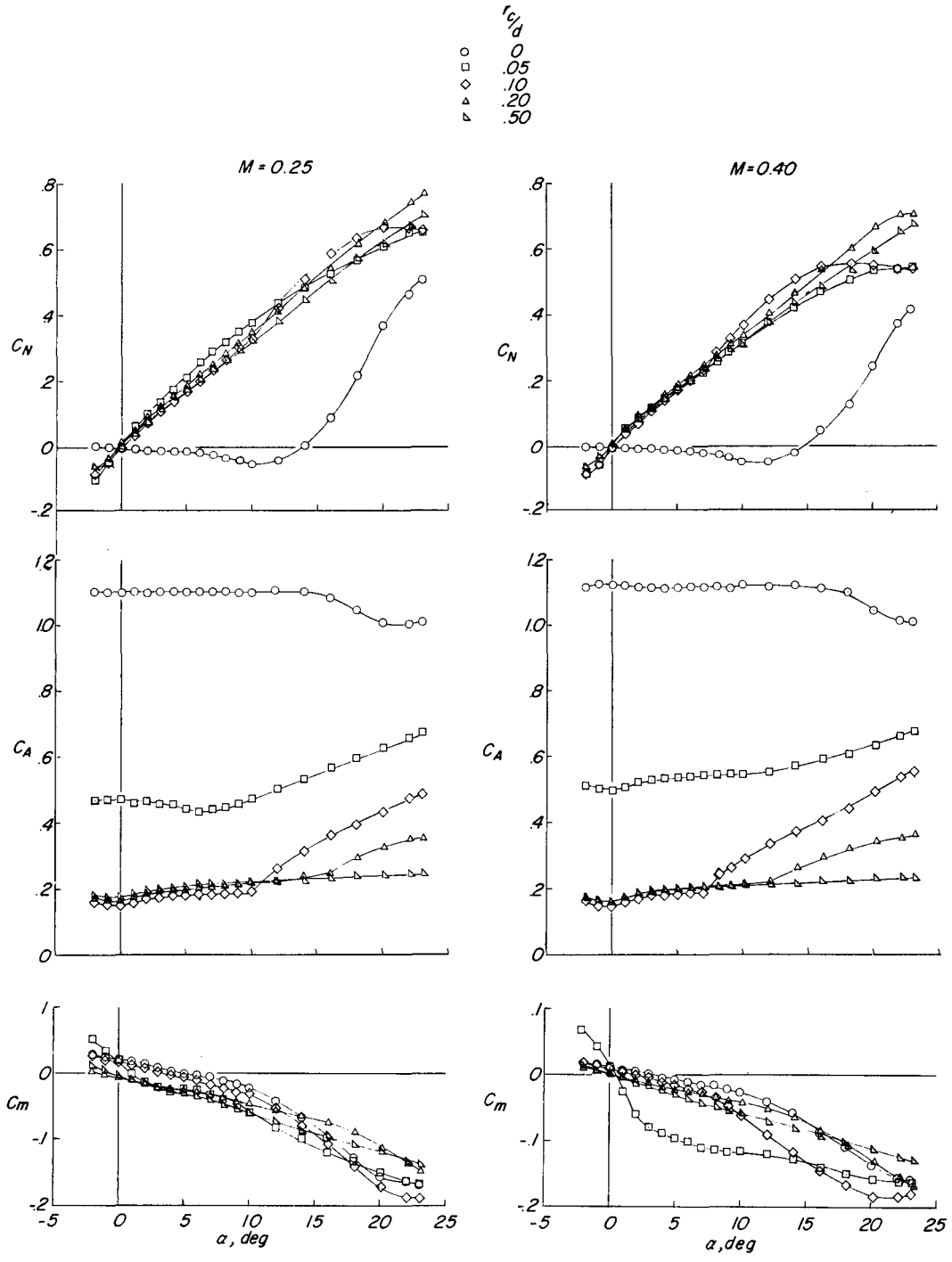


Figure 6.- Effect of corner radius on the longitudinal aerodynamic characteristics of the model with transition strip on and $l/d = 1.00$.

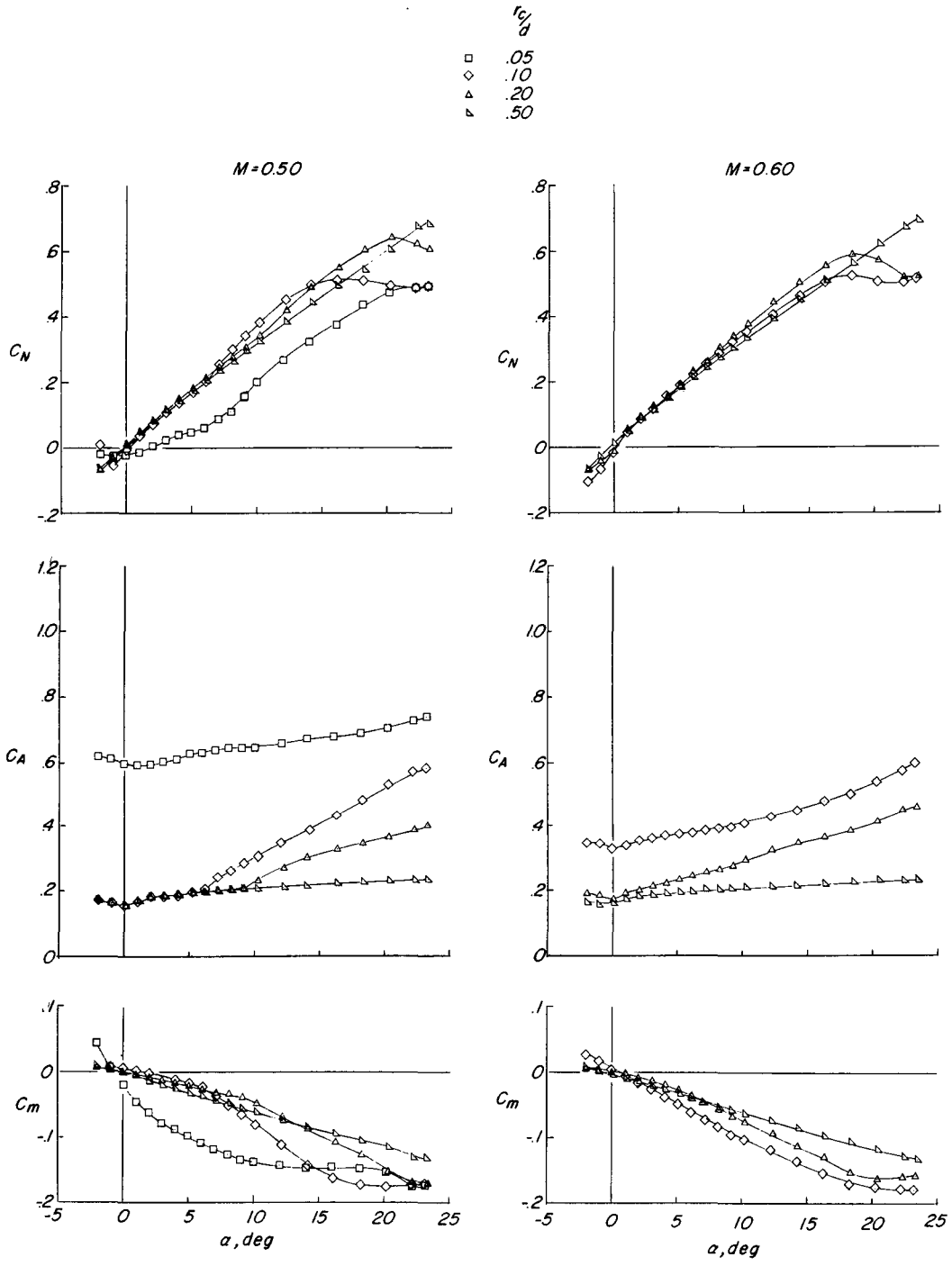


Figure 6.- Continued.

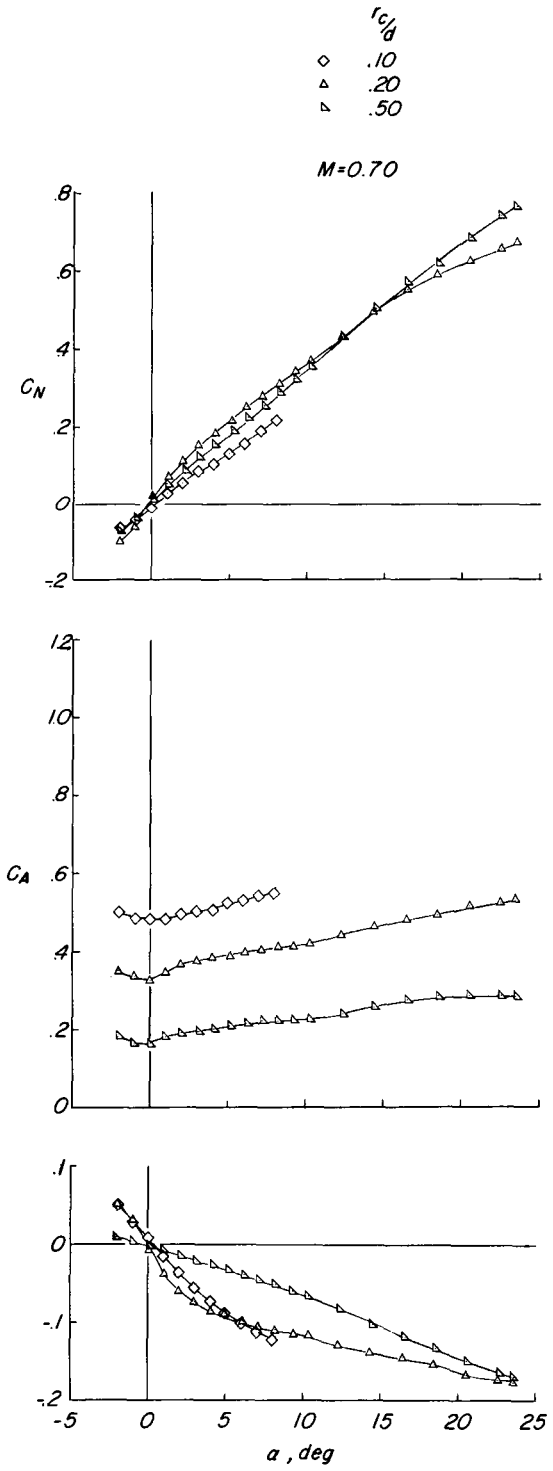


Figure 6.- Concluded.

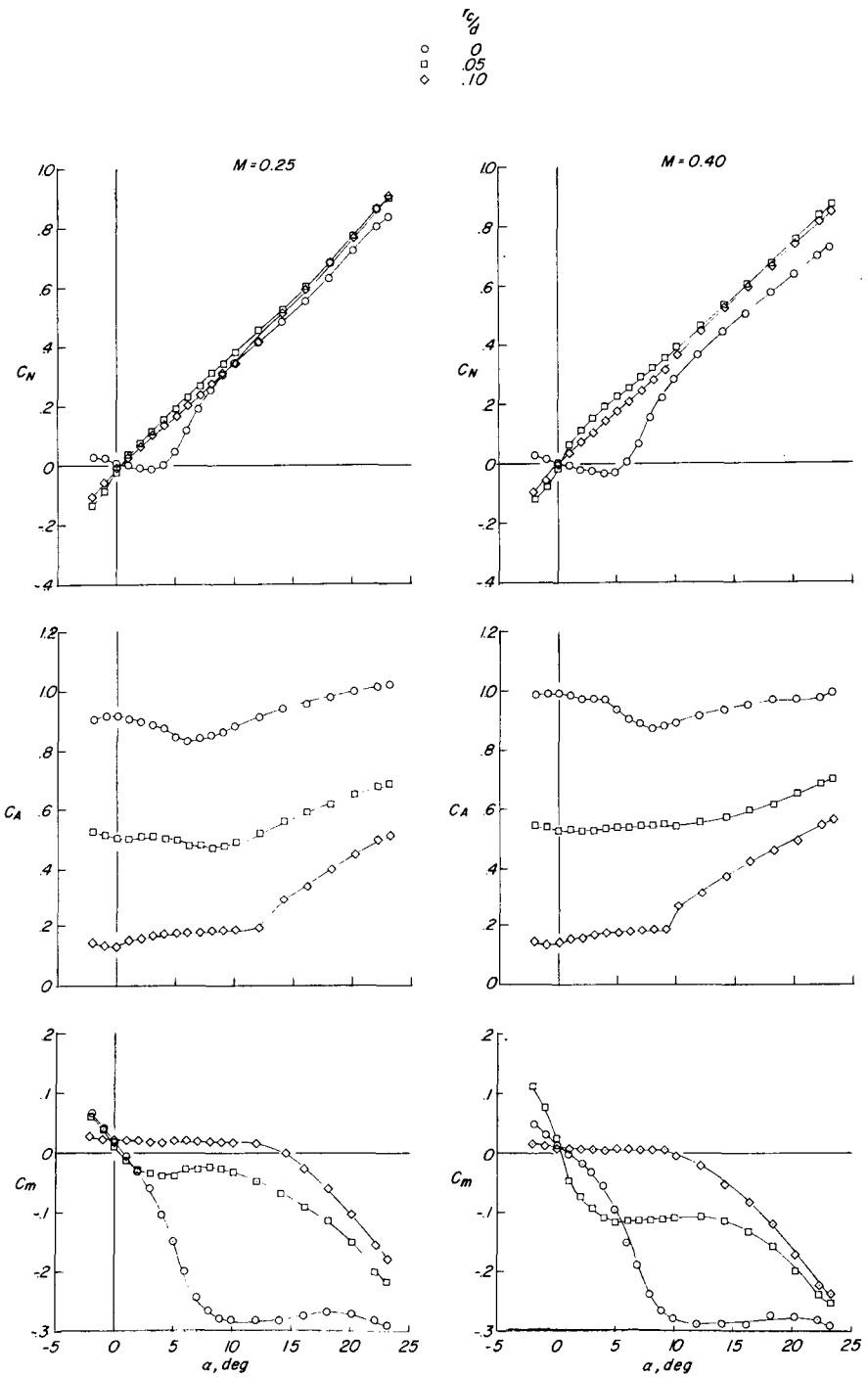


Figure 7.- Effect of corner radius on the longitudinal aerodynamic characteristics of the model with transition strip on and $l/d = 1.50$.

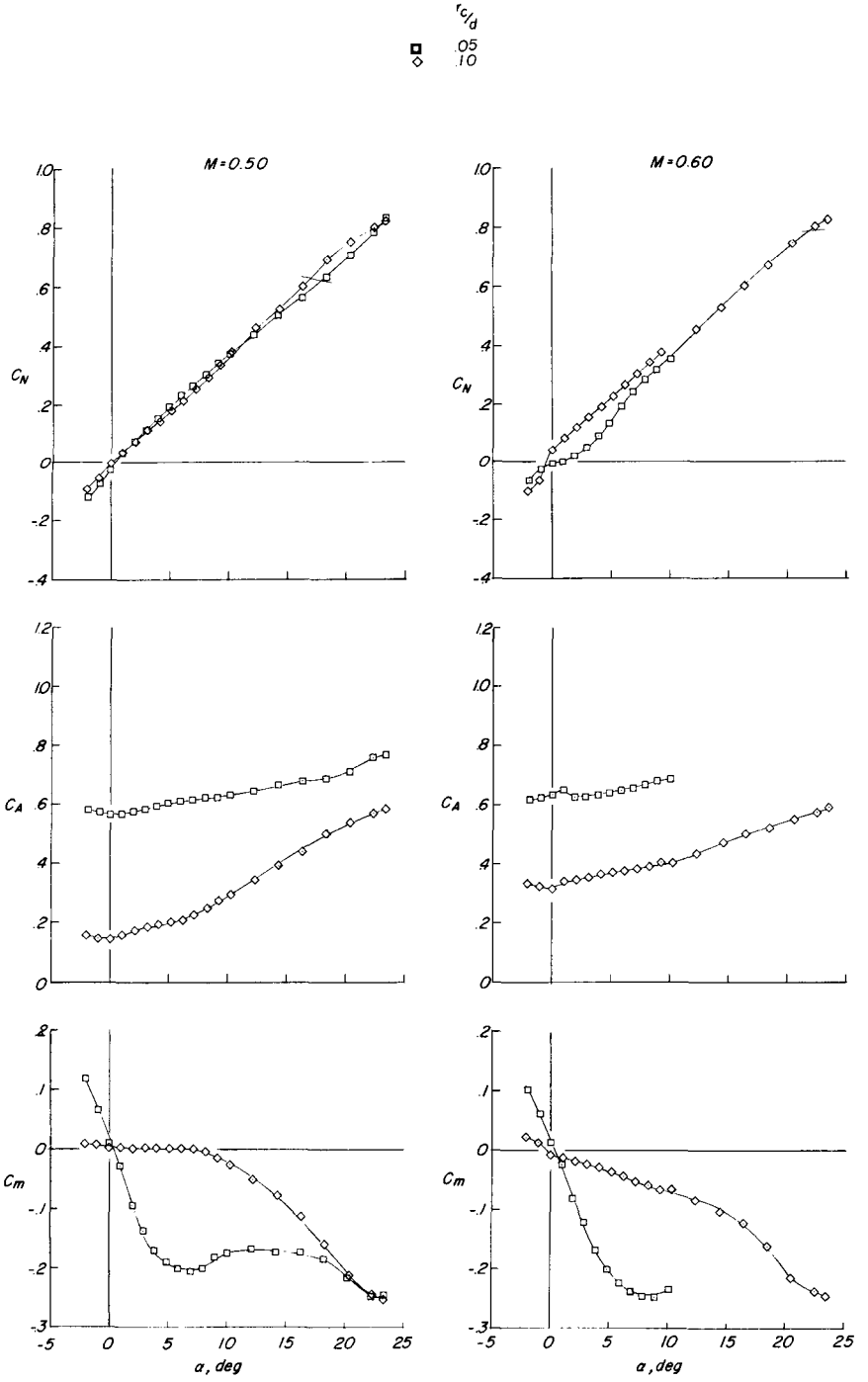


Figure 7.- Concluded.

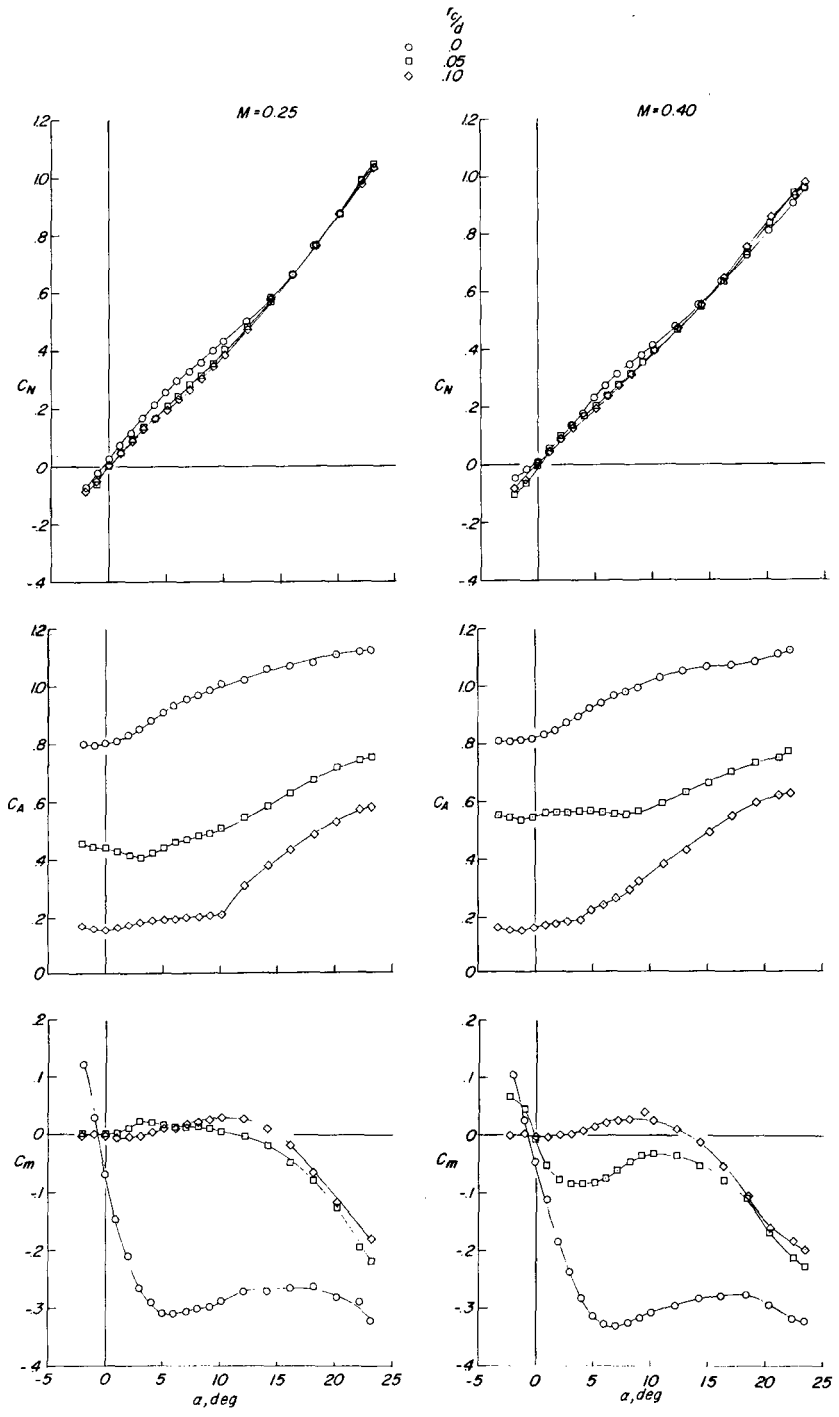


Figure 8.- Effect of corner radius on the longitudinal aerodynamic characteristics of the model with transition strip on and $l/d = 2.00$.

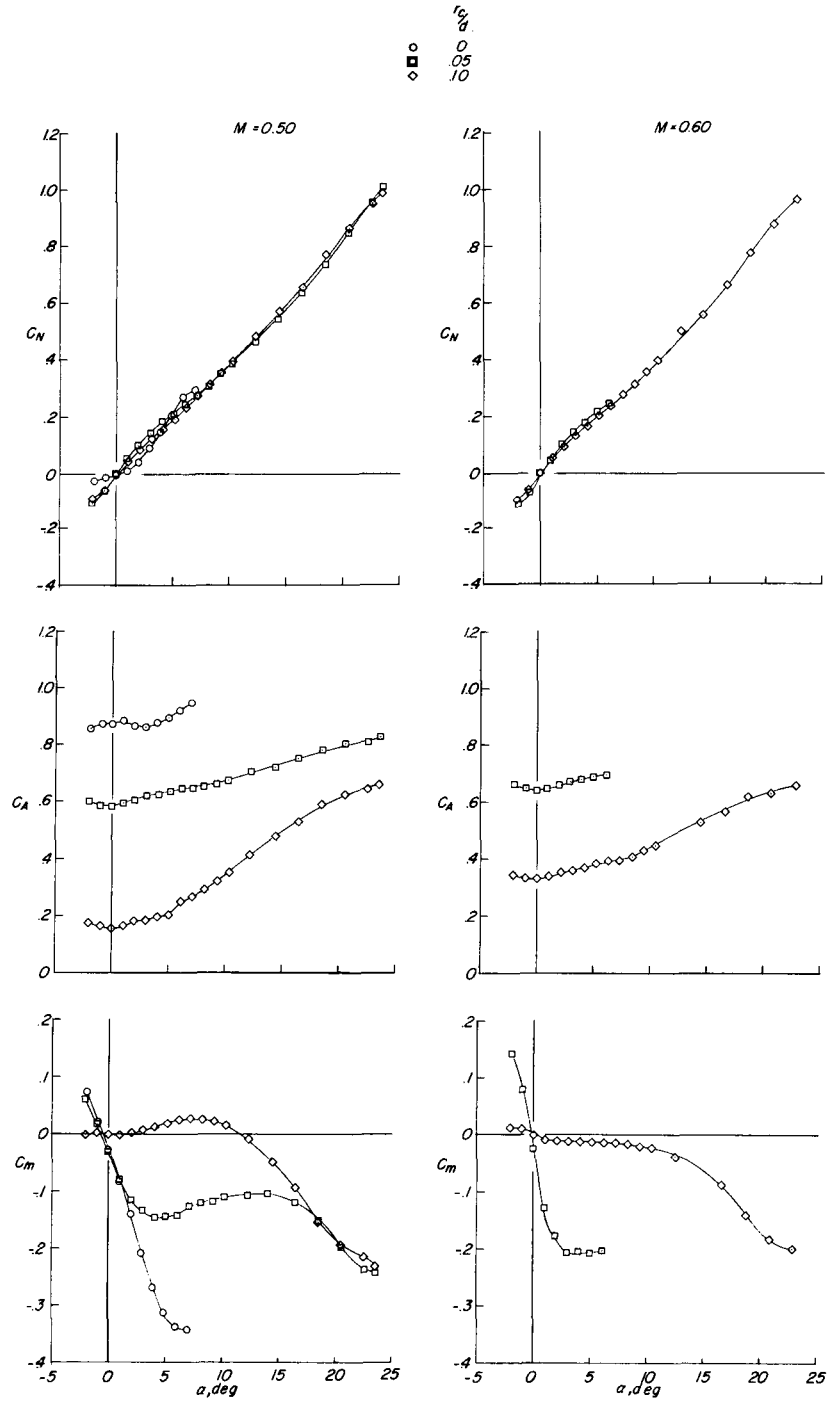


Figure 8.- Concluded.

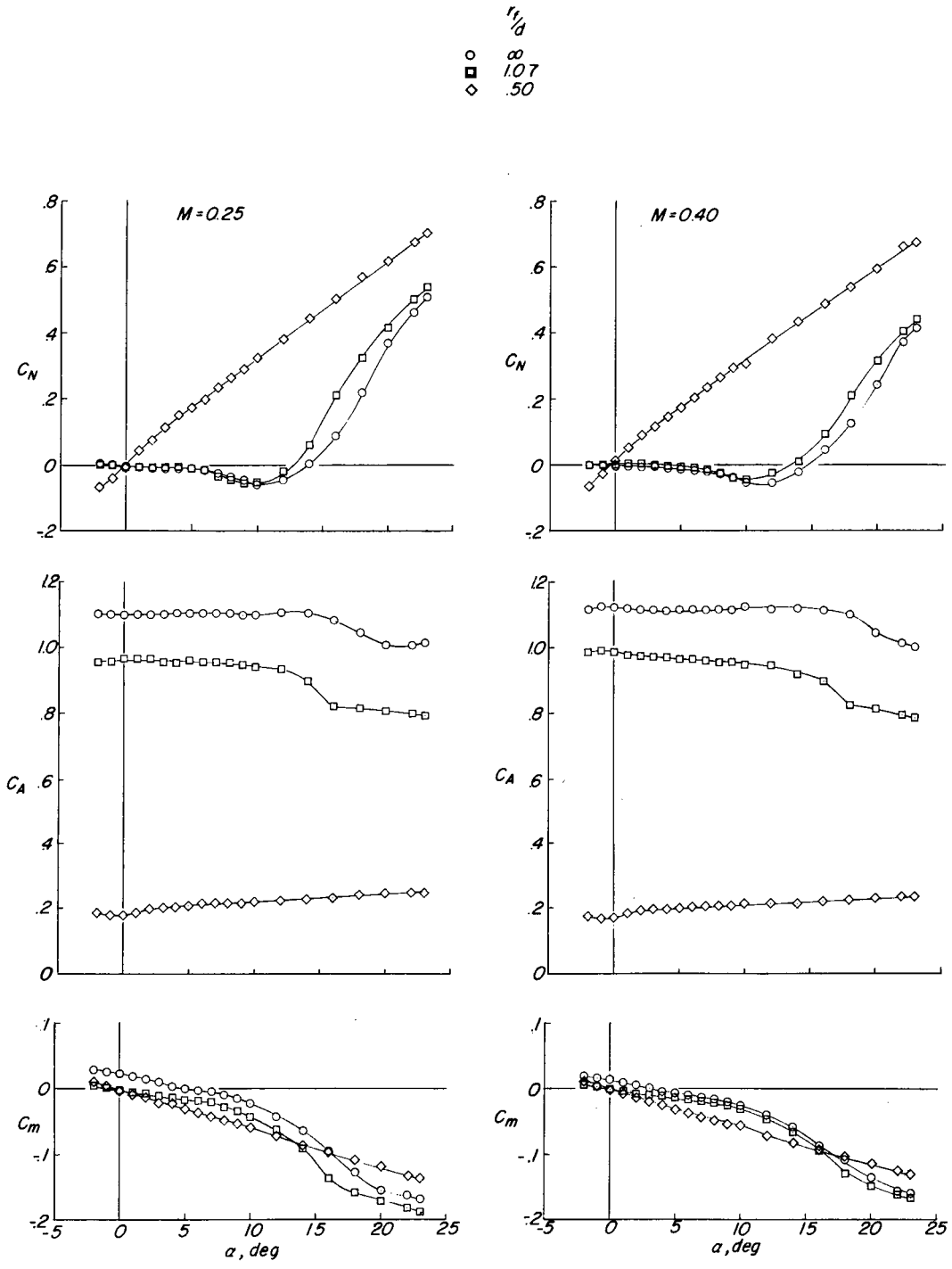


Figure 9.- Effect of face radius on the longitudinal aerodynamic characteristics of the model with transition strip on and $l/d = 1.00$.

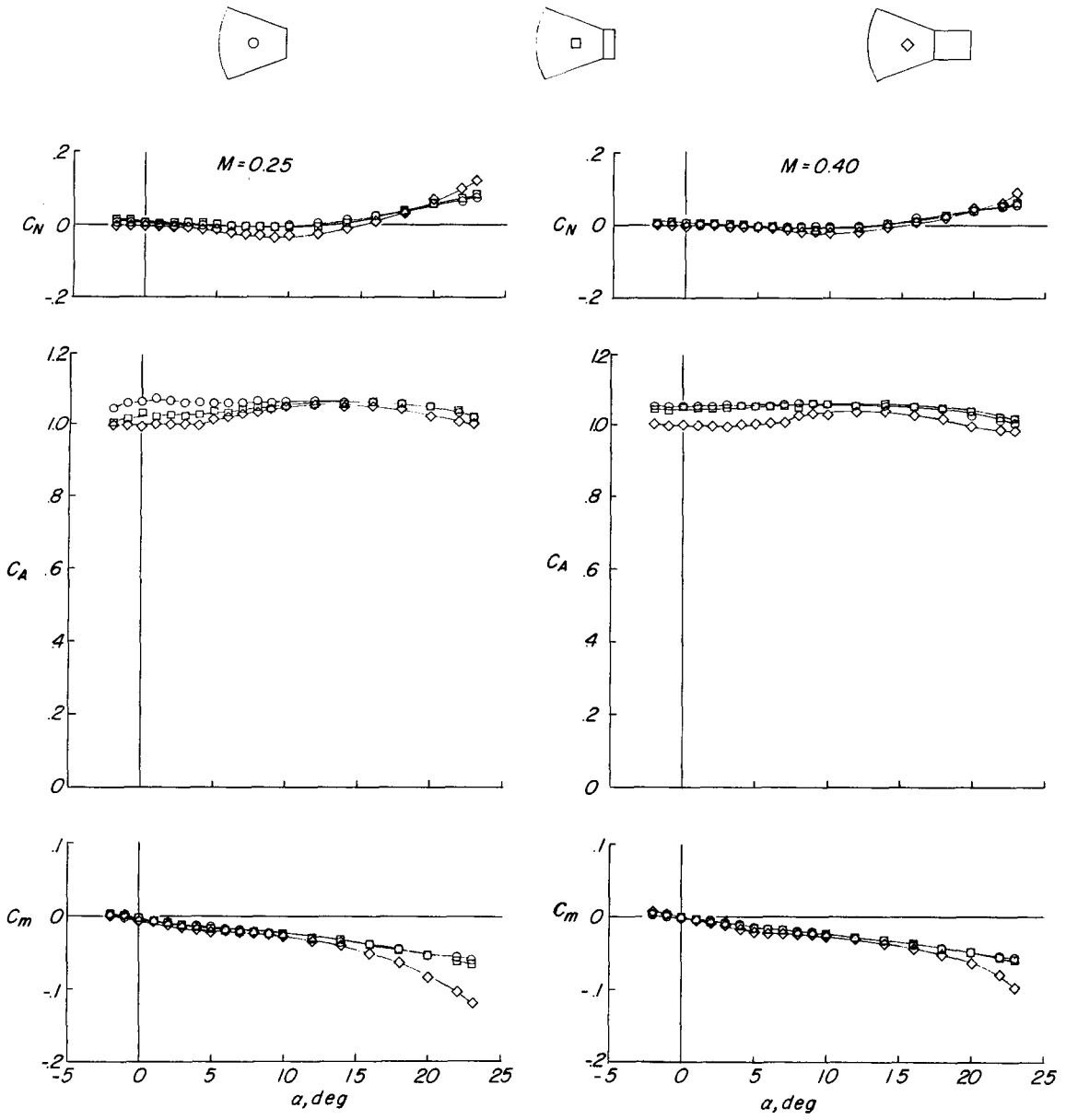


Figure 10.- Effect of cylindrical tail length on the longitudinal aerodynamic characteristics of the boattailed model. Transition off; $r_f/d = 1.07$.

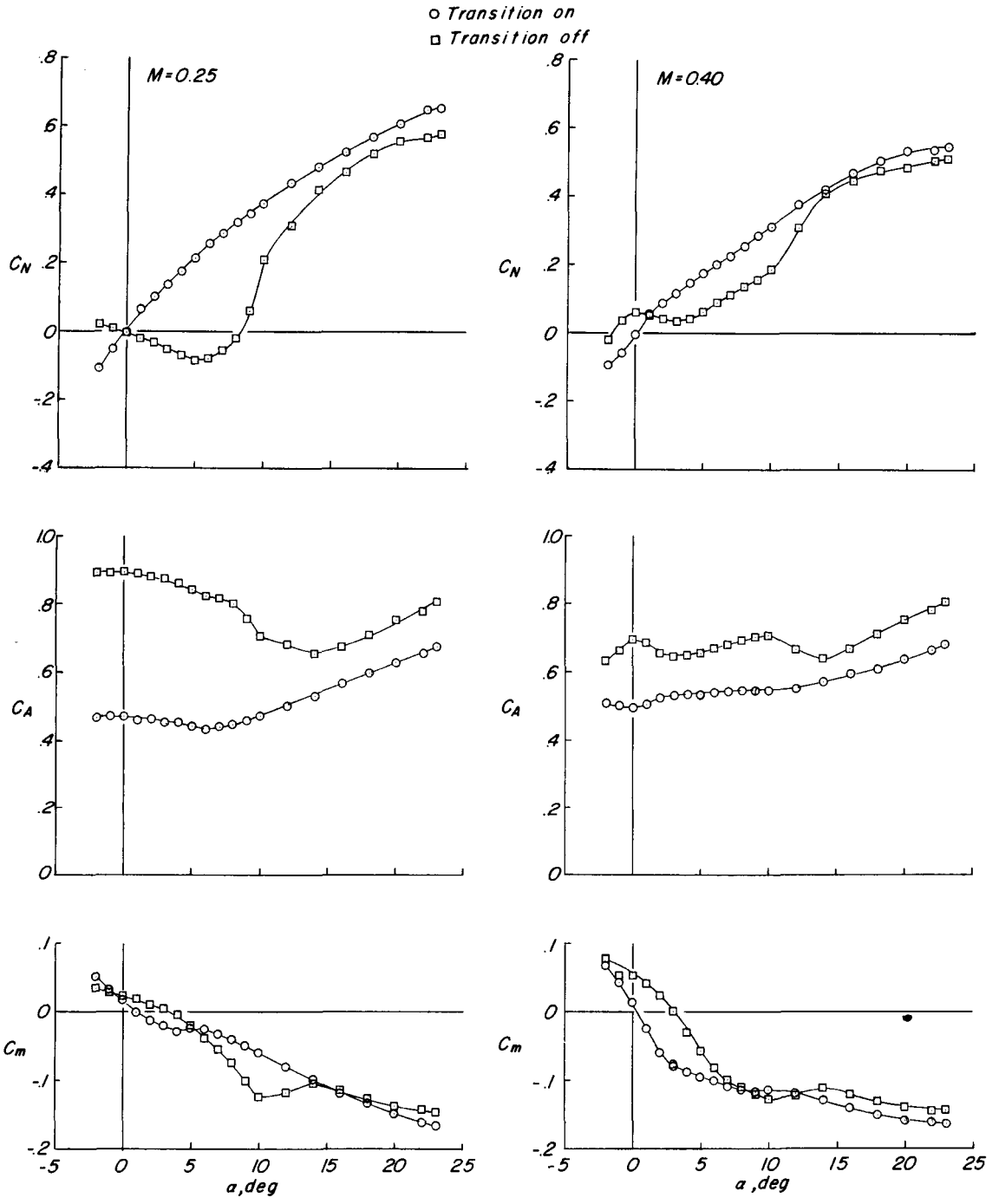


Figure 11.- Effect of transition on the longitudinal aerodynamic characteristics of the model with $l/d = 1.00$ and $r_c/d = 0.05$.

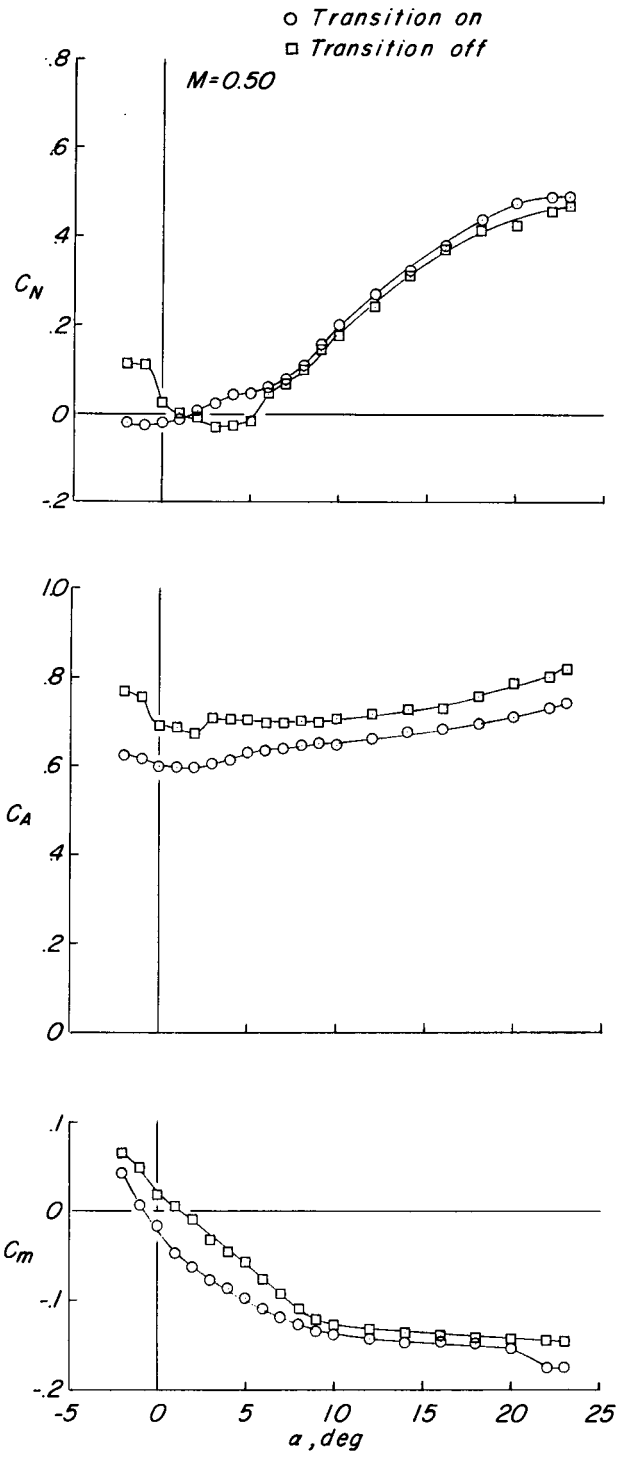


Figure 11.- Concluded.

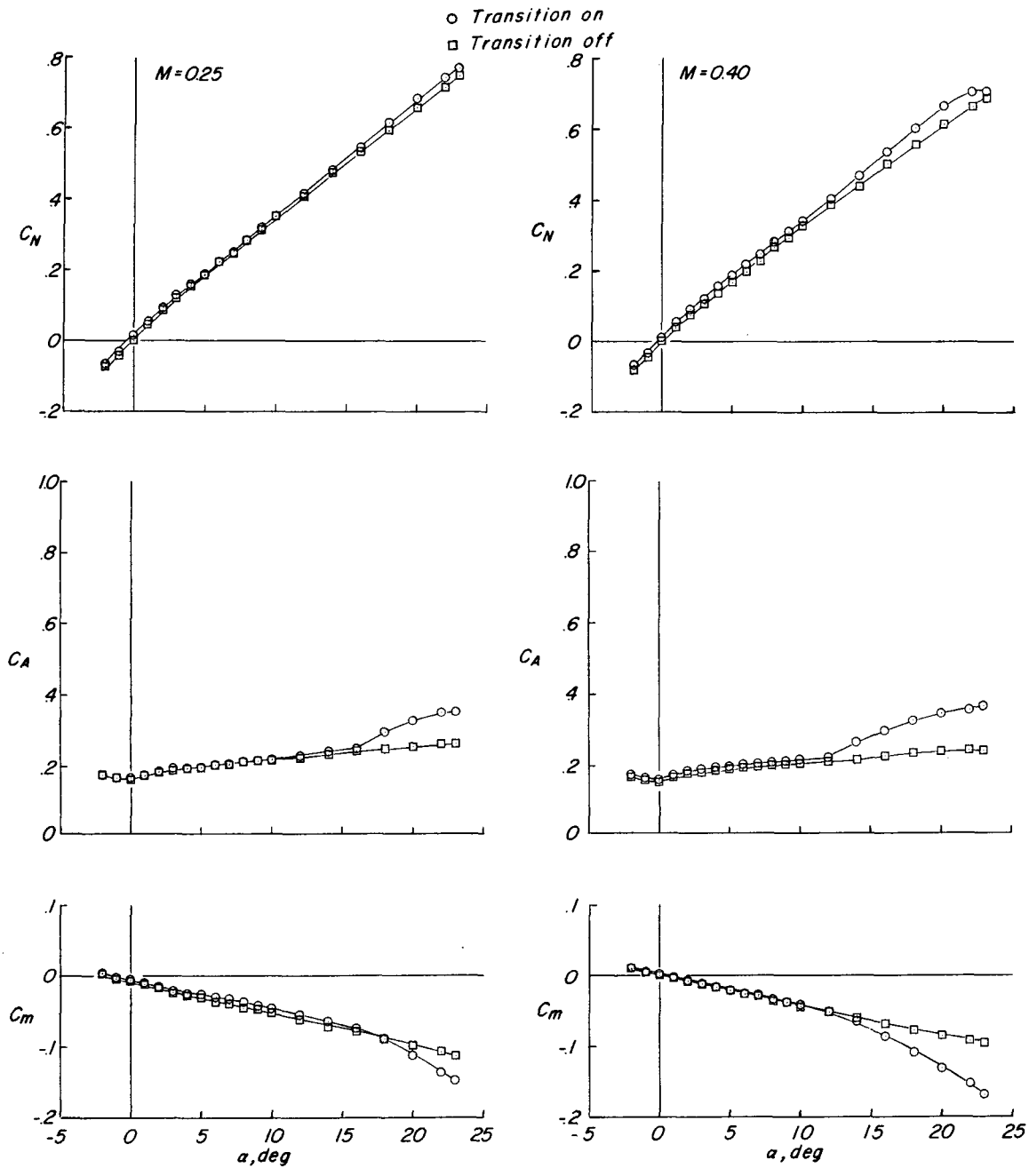


Figure 12.- Effect of transition on the longitudinal aerodynamic characteristics of the model with $l/d = 1.00$ and $r_c/d = 0.20$.

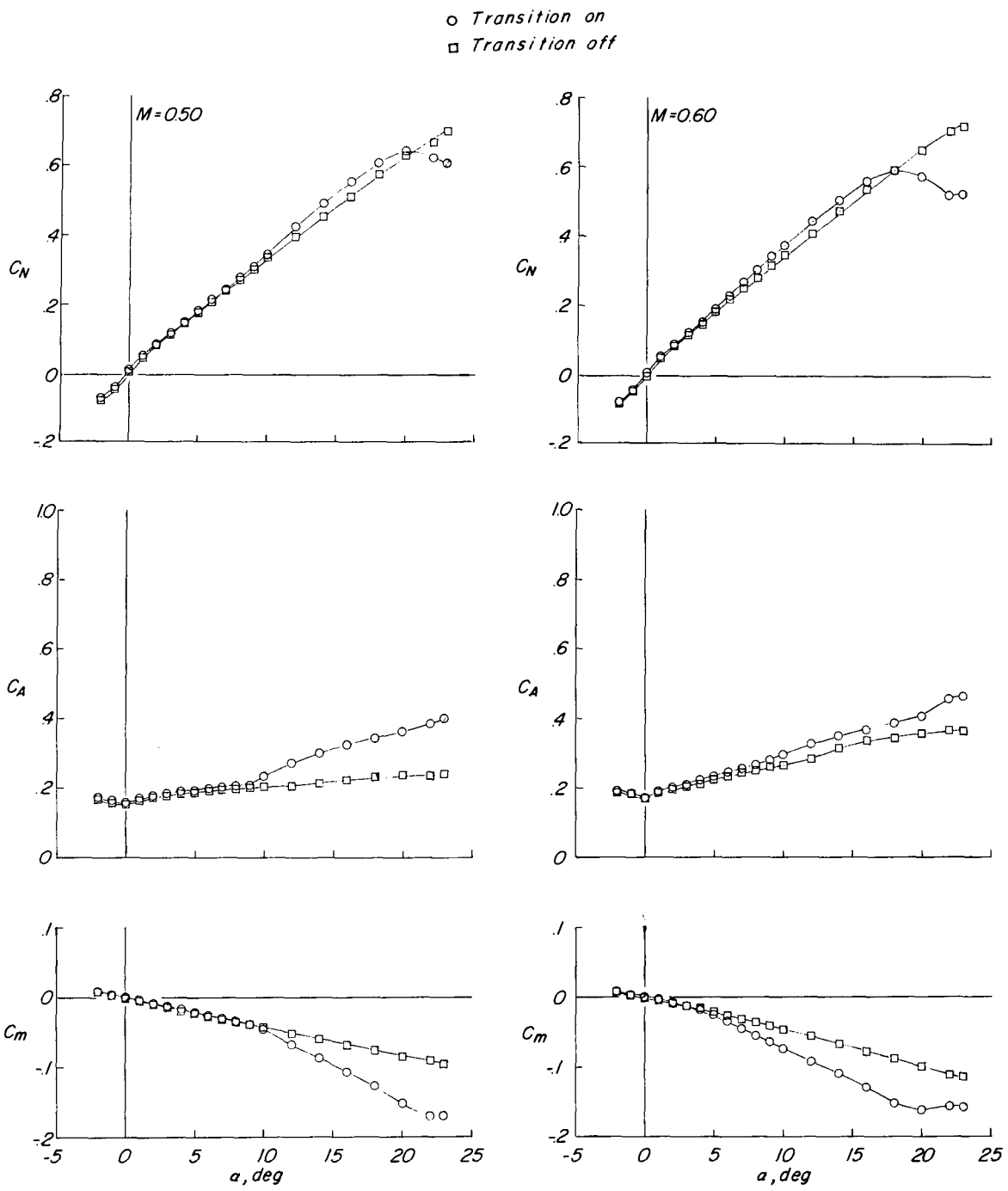


Figure 12.- Continued.

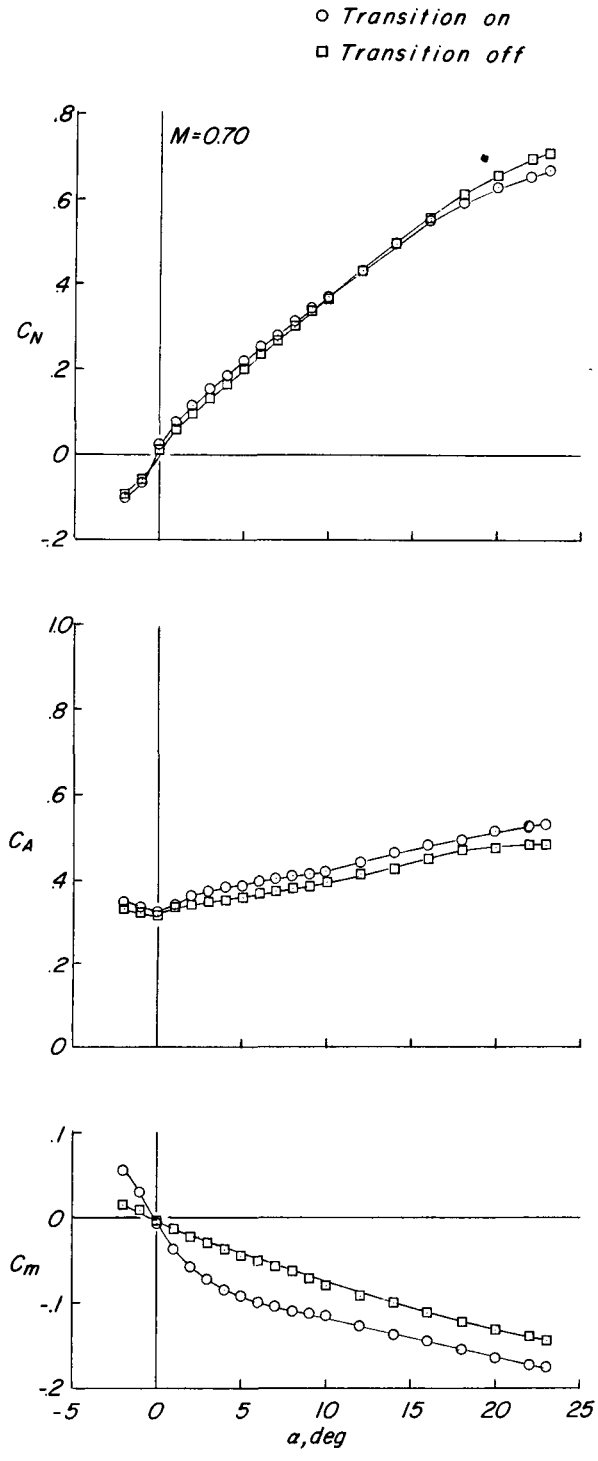


Figure 12.- Concluded.

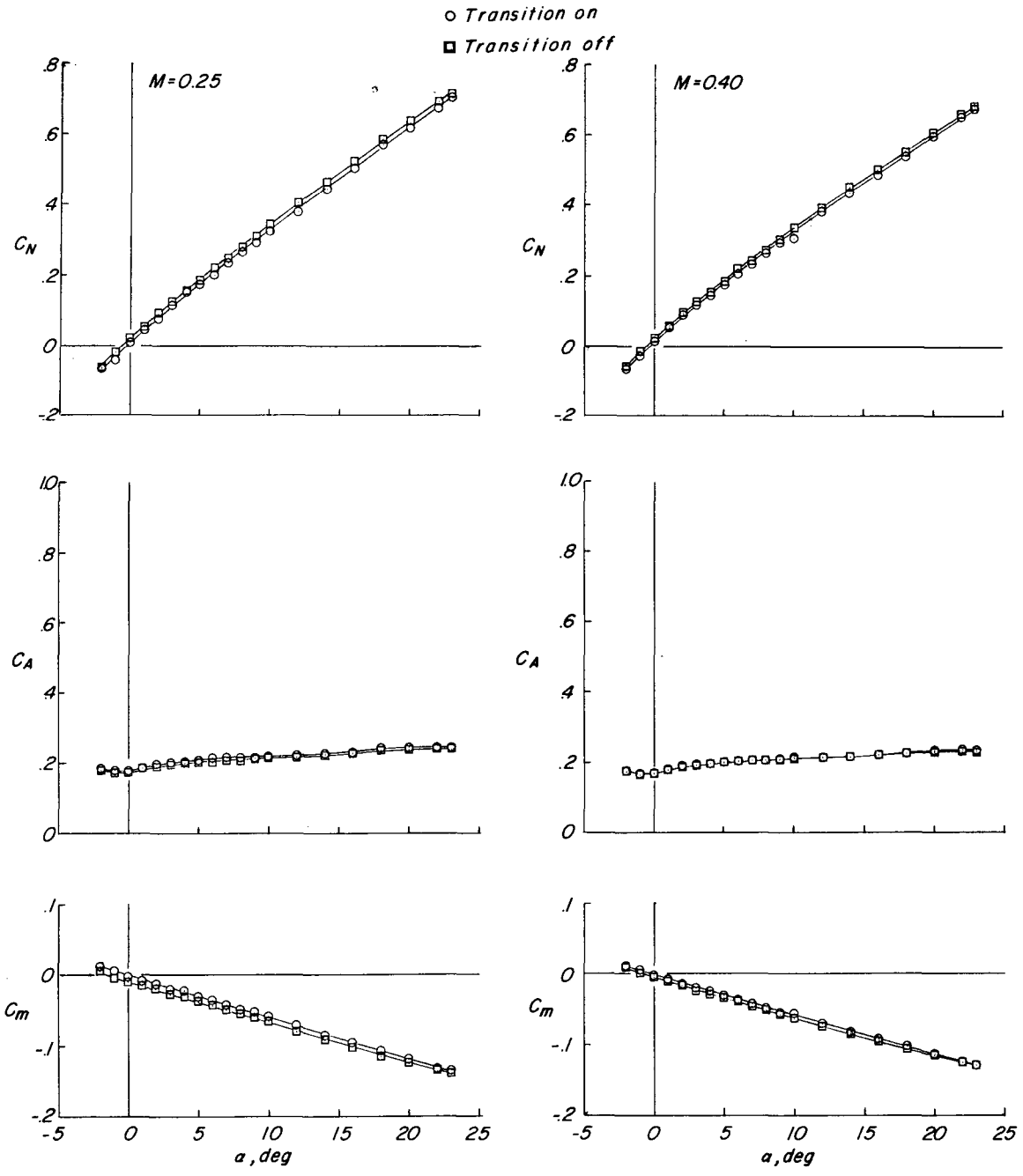


Figure 13.- Effect of transition on the longitudinal aerodynamic characteristics of the model with $l/d = 1.00$ and $r_c/d = 0.50$.

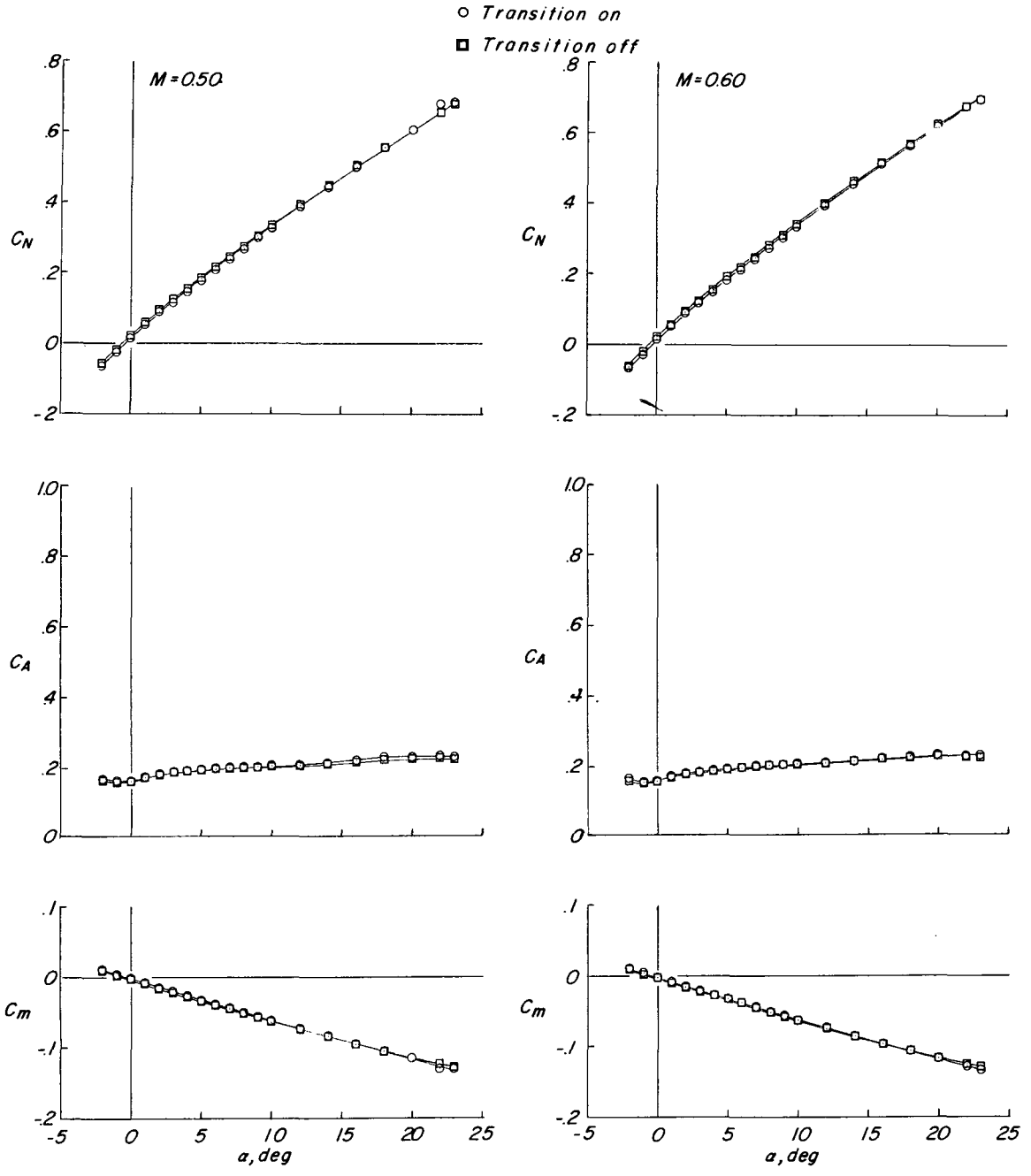


Figure 13.- Continued.

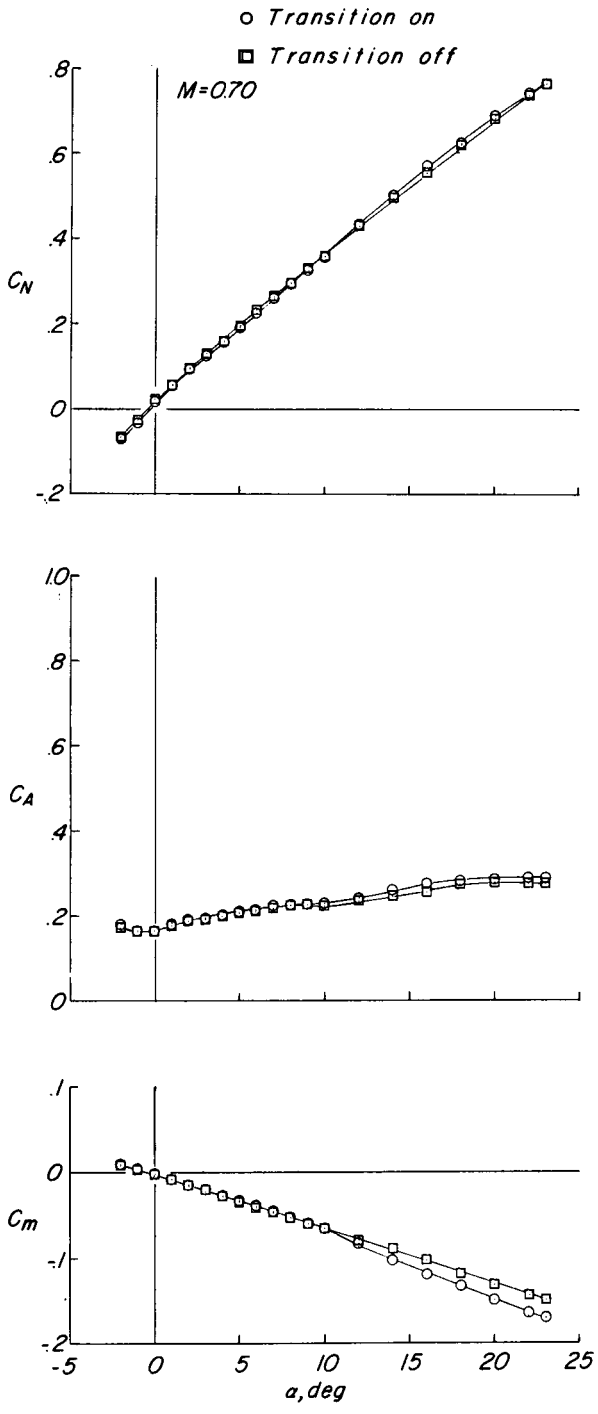


Figure 13.- Concluded.

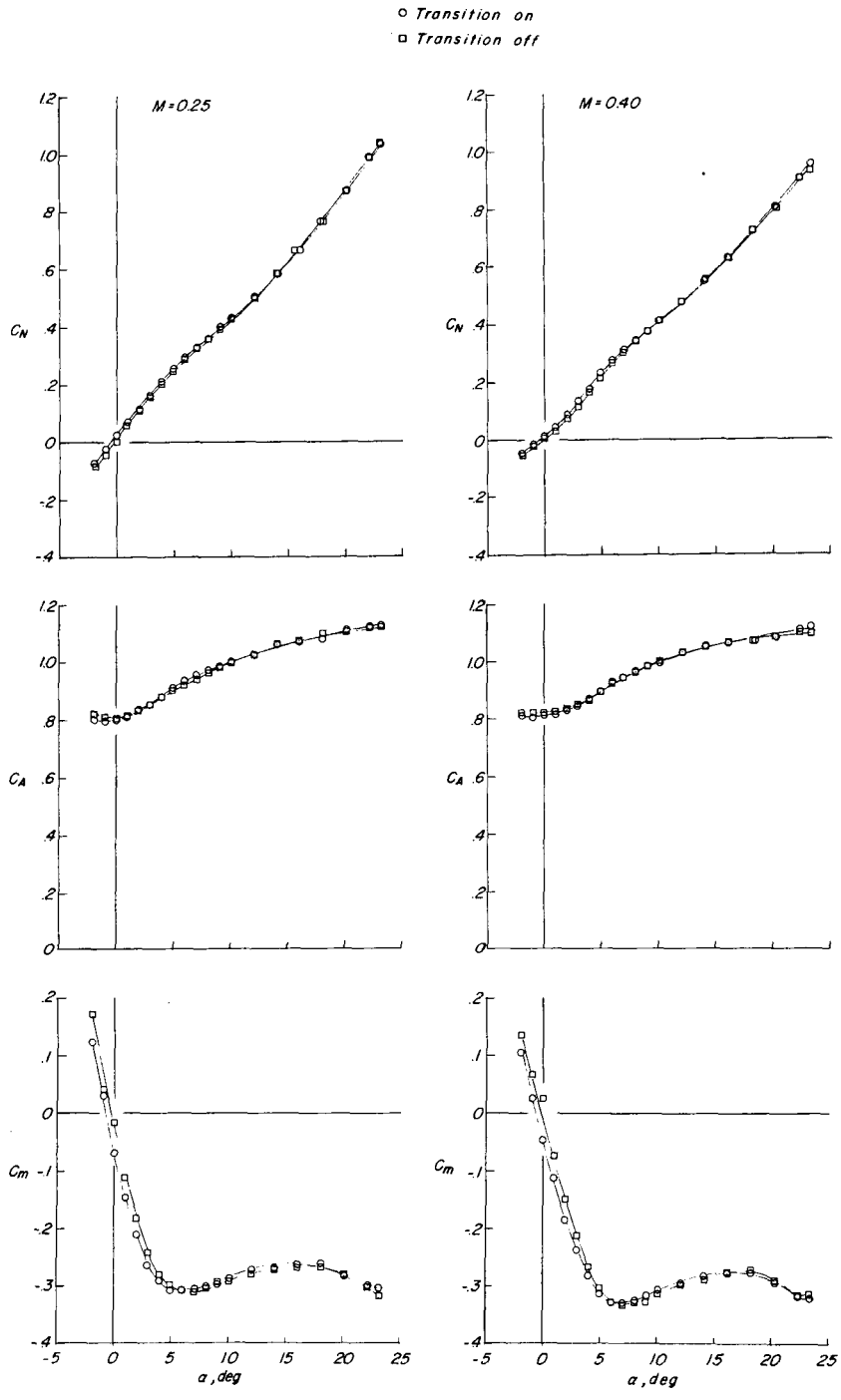


Figure 14.- Effect of transition on the longitudinal aerodynamic characteristics of the model with $l/d = 2.00$ and $r_c/d = 0.00$.

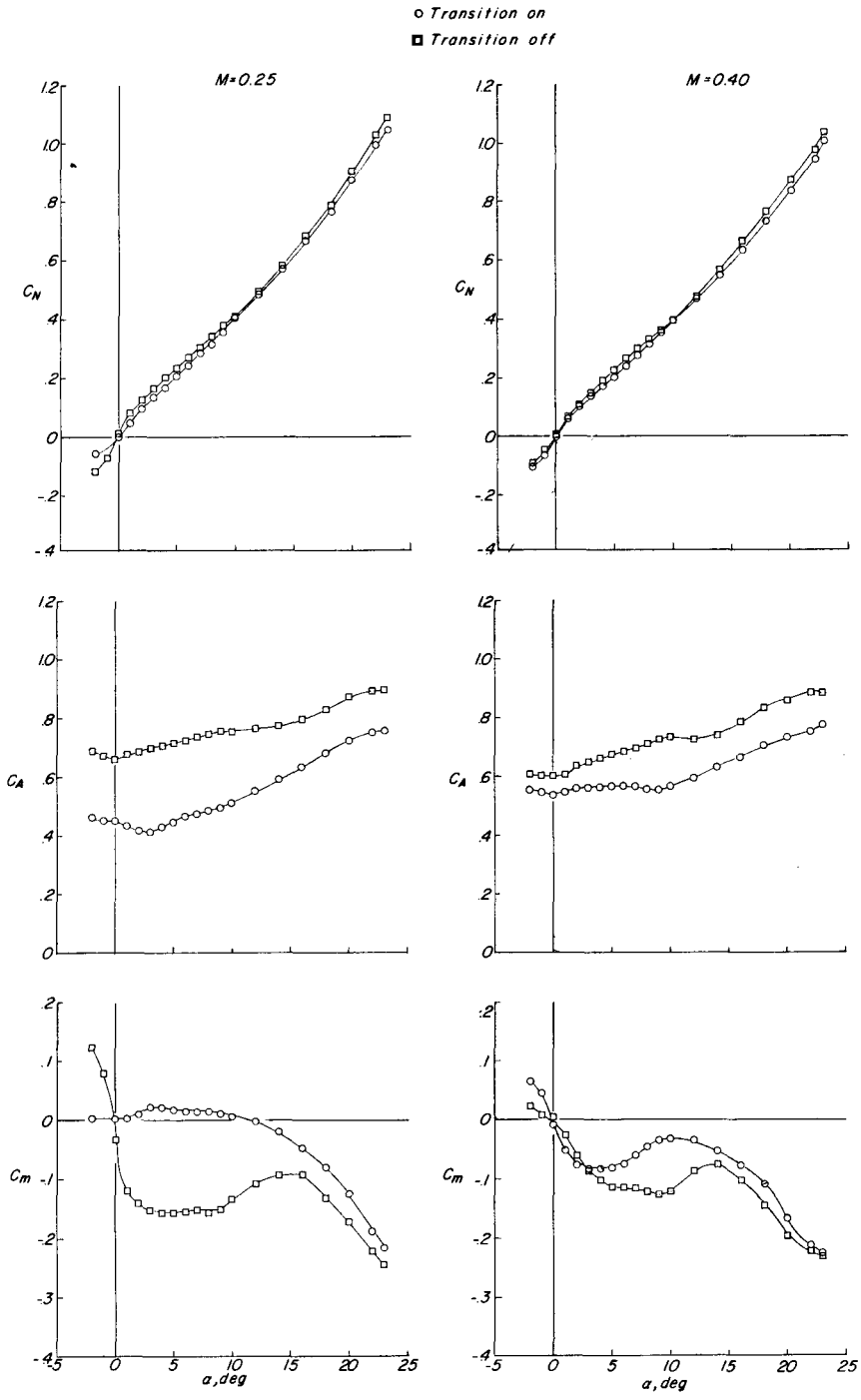


Figure 15.- Effect of transition on the longitudinal aerodynamic characteristics of the model with $l/d = 2.00$ and $r_c/d = 0.05$.

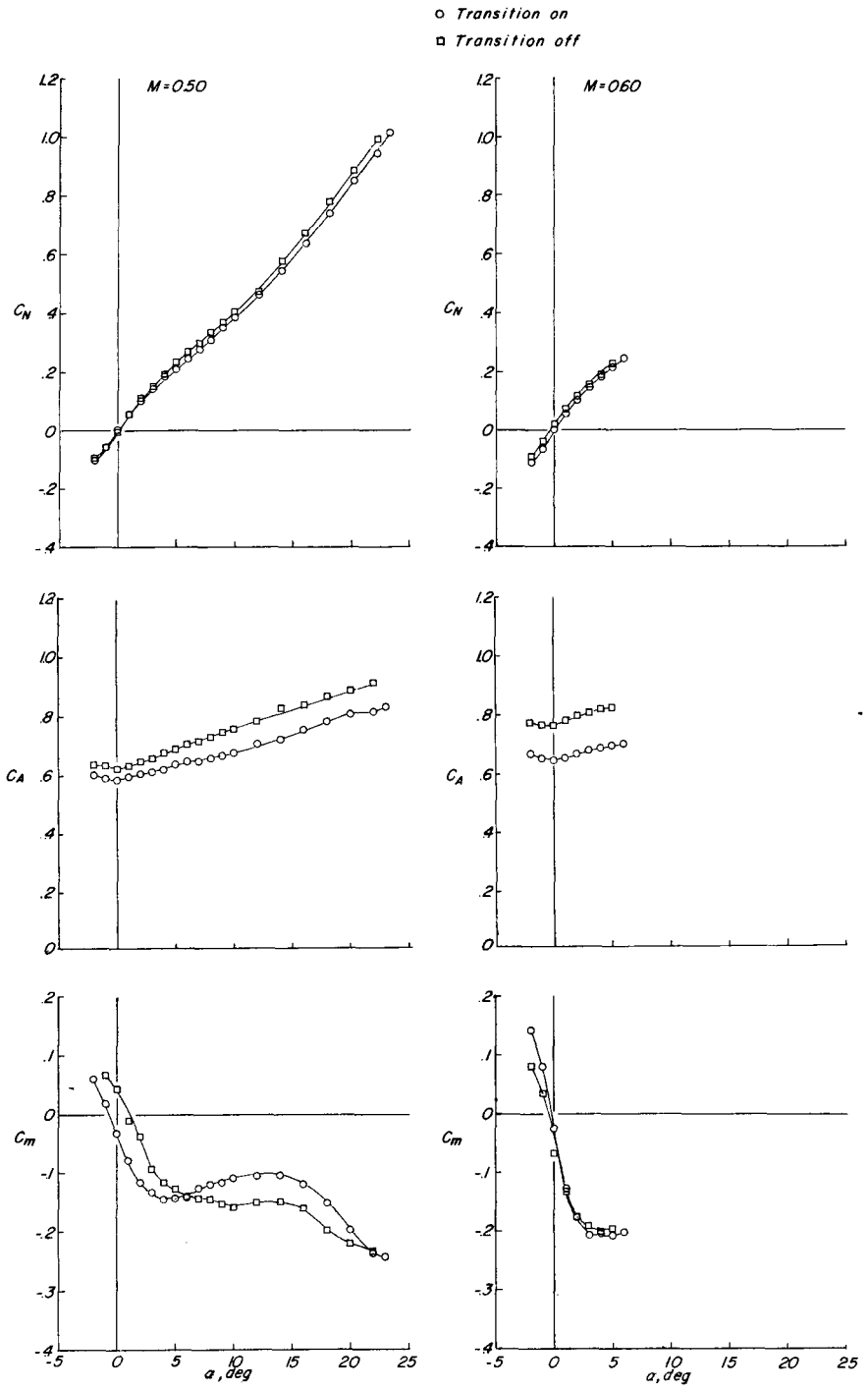


Figure 15.- Concluded.

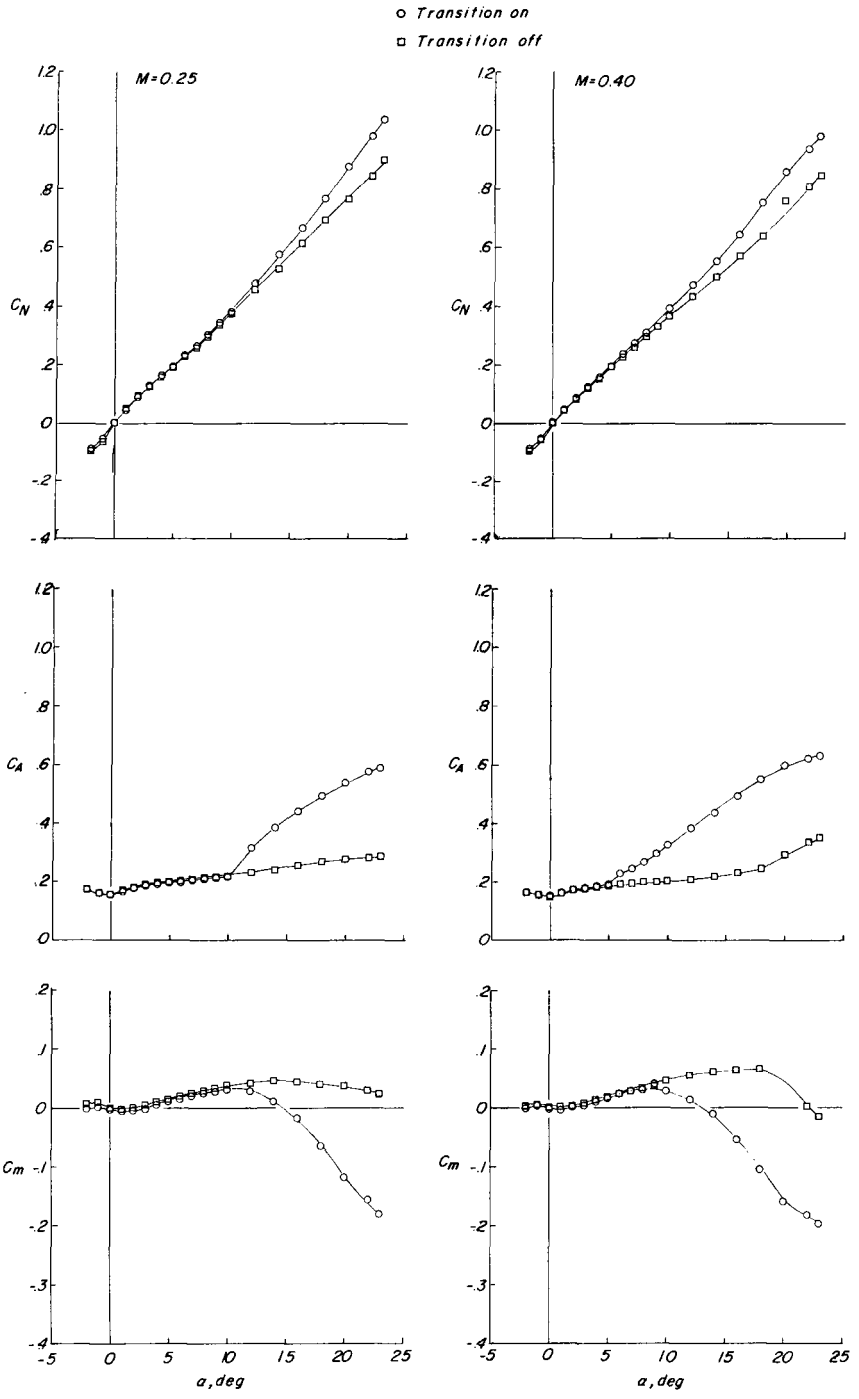


Figure 16.- Effect of transition on the longitudinal aerodynamic characteristics of the model with $l/d = 2.00$ and $r_c/d = 0.10$.

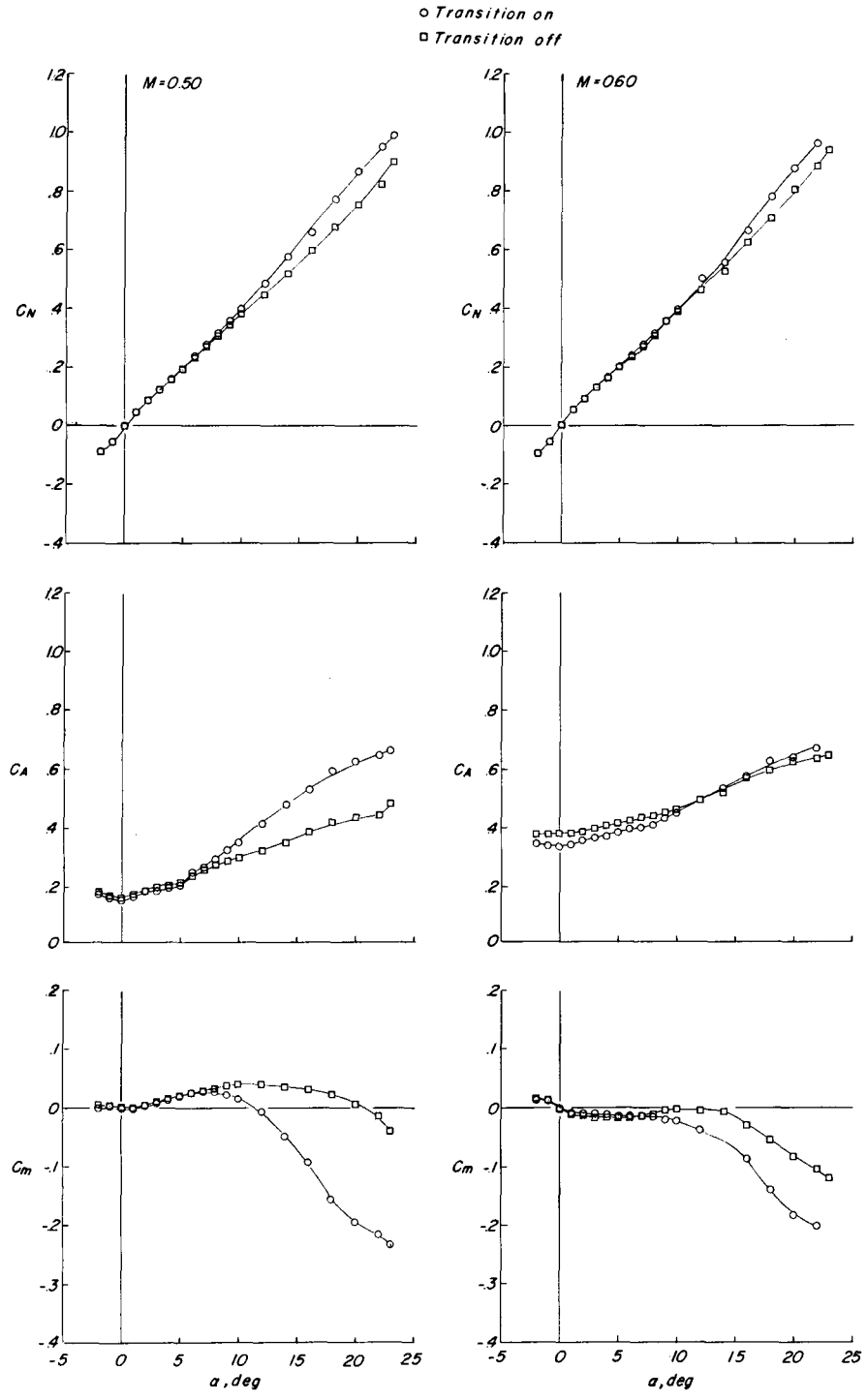


Figure 16.- Continued.

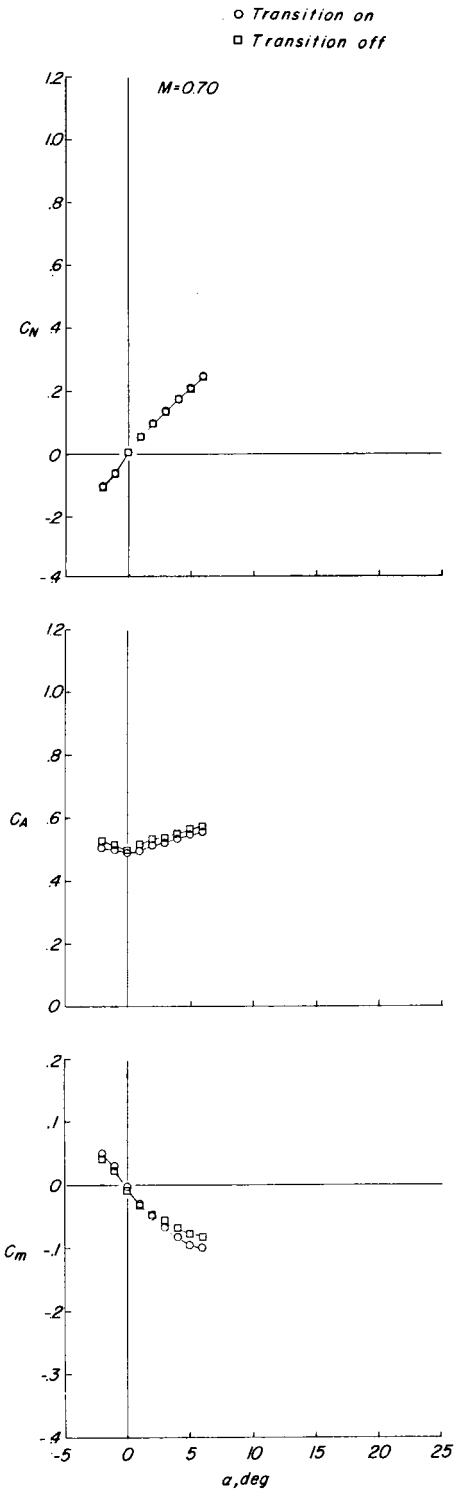


Figure 16.- Concluded.

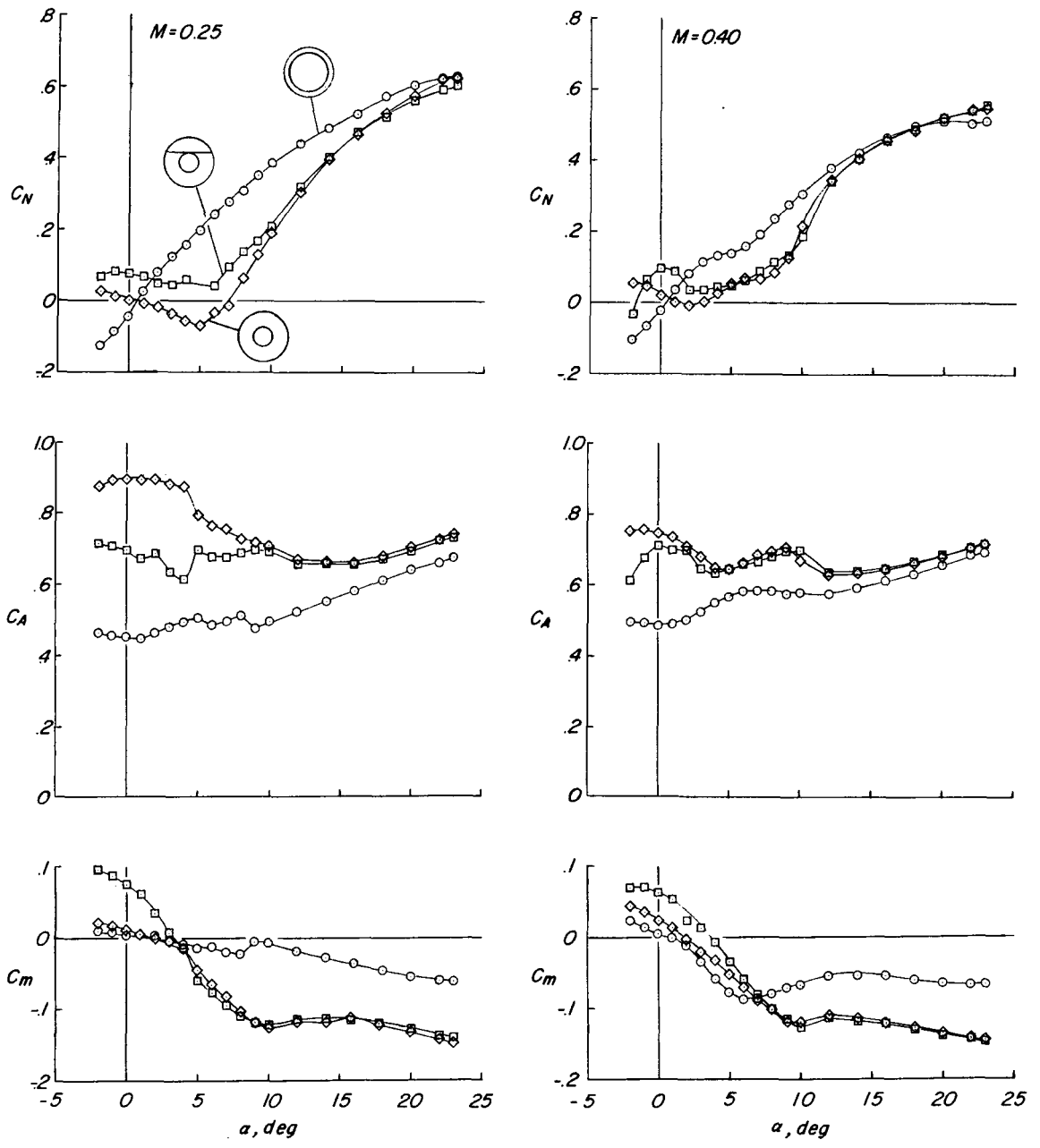


Figure 17.- Effect of transition location on the longitudinal aerodynamic characteristics of the model with $l/d = 1.00$ and $r_c/d = 0.05$.

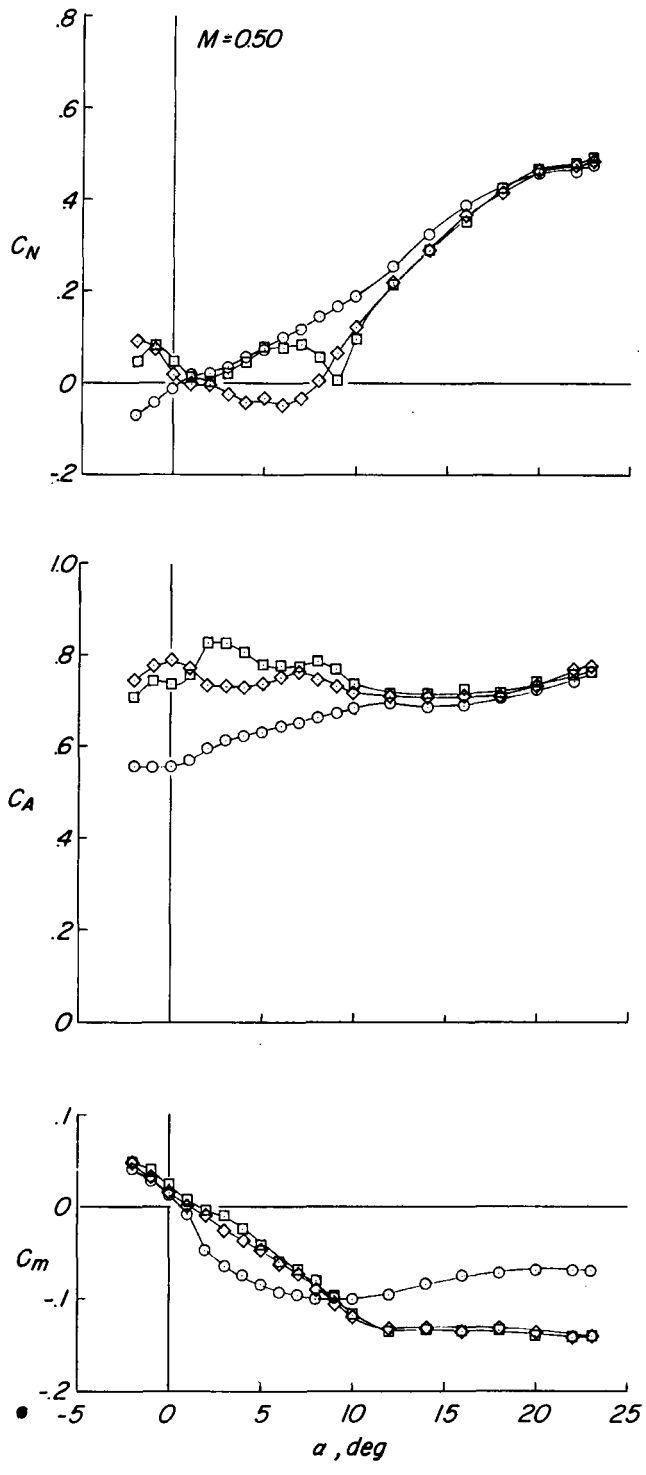


Figure 17.- Concluded.

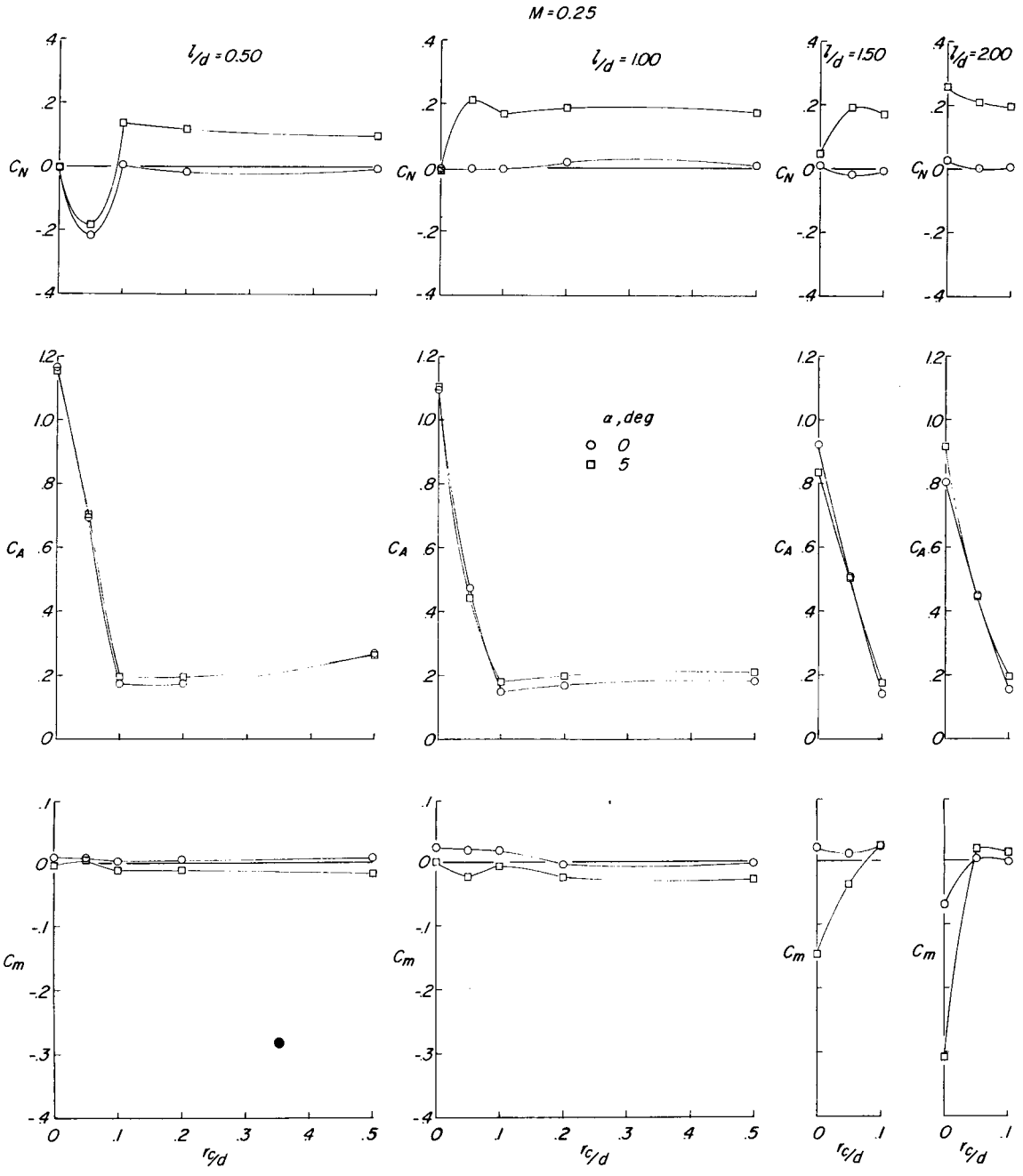


Figure 18.- Variation of the longitudinal aerodynamic characteristics with corner radius.

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National Aeronautics and Space Administration.
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(NASA TECHNICAL NOTE D-650)

The effects of nose shape, afterbody shape, fineness ratio, and transition strips on the static longitudinal aerodynamic characteristics of a body of revolution are presented at several subsonic Mach numbers through the angle-of-attack range from -4° to 24°.

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